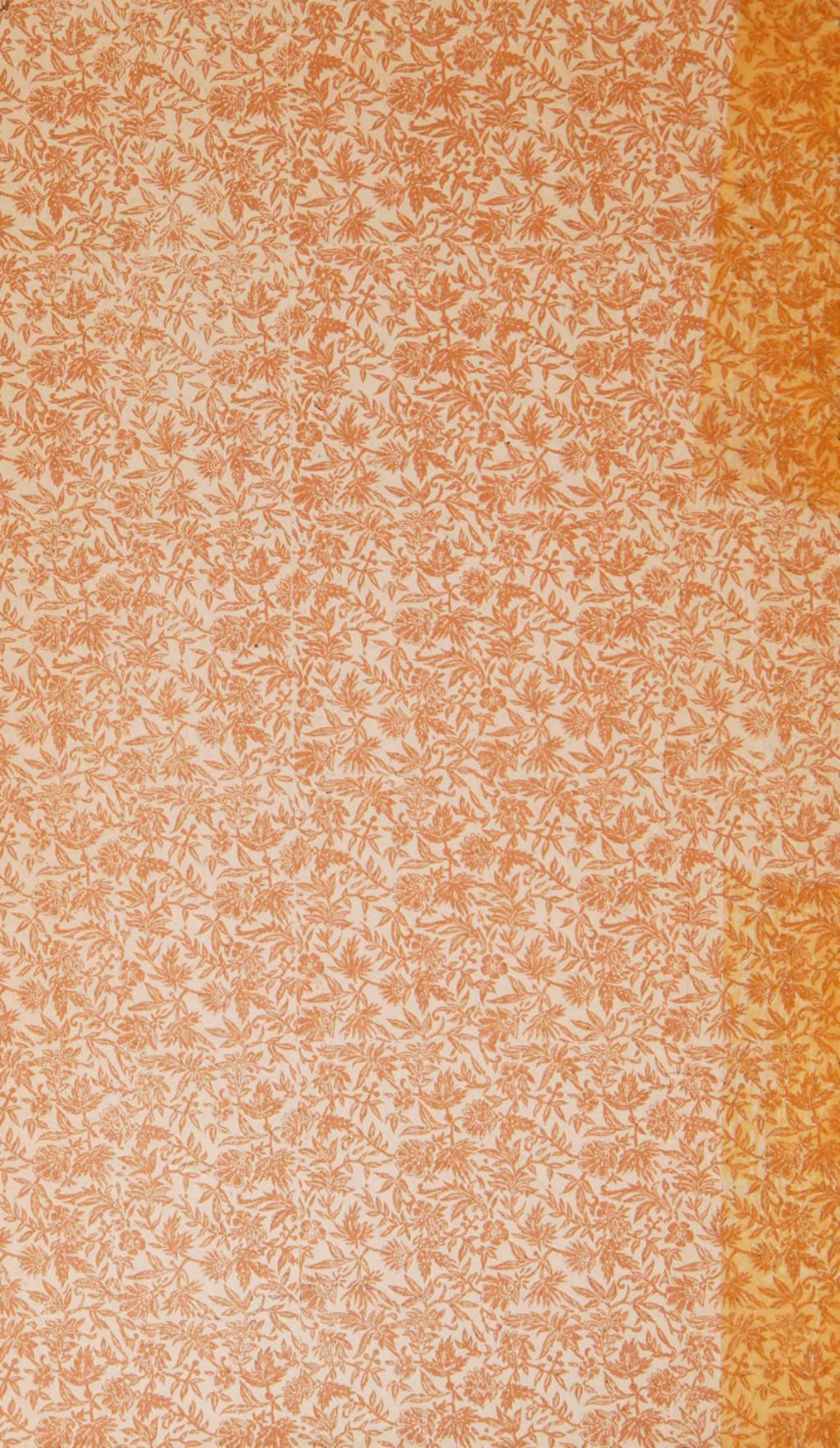
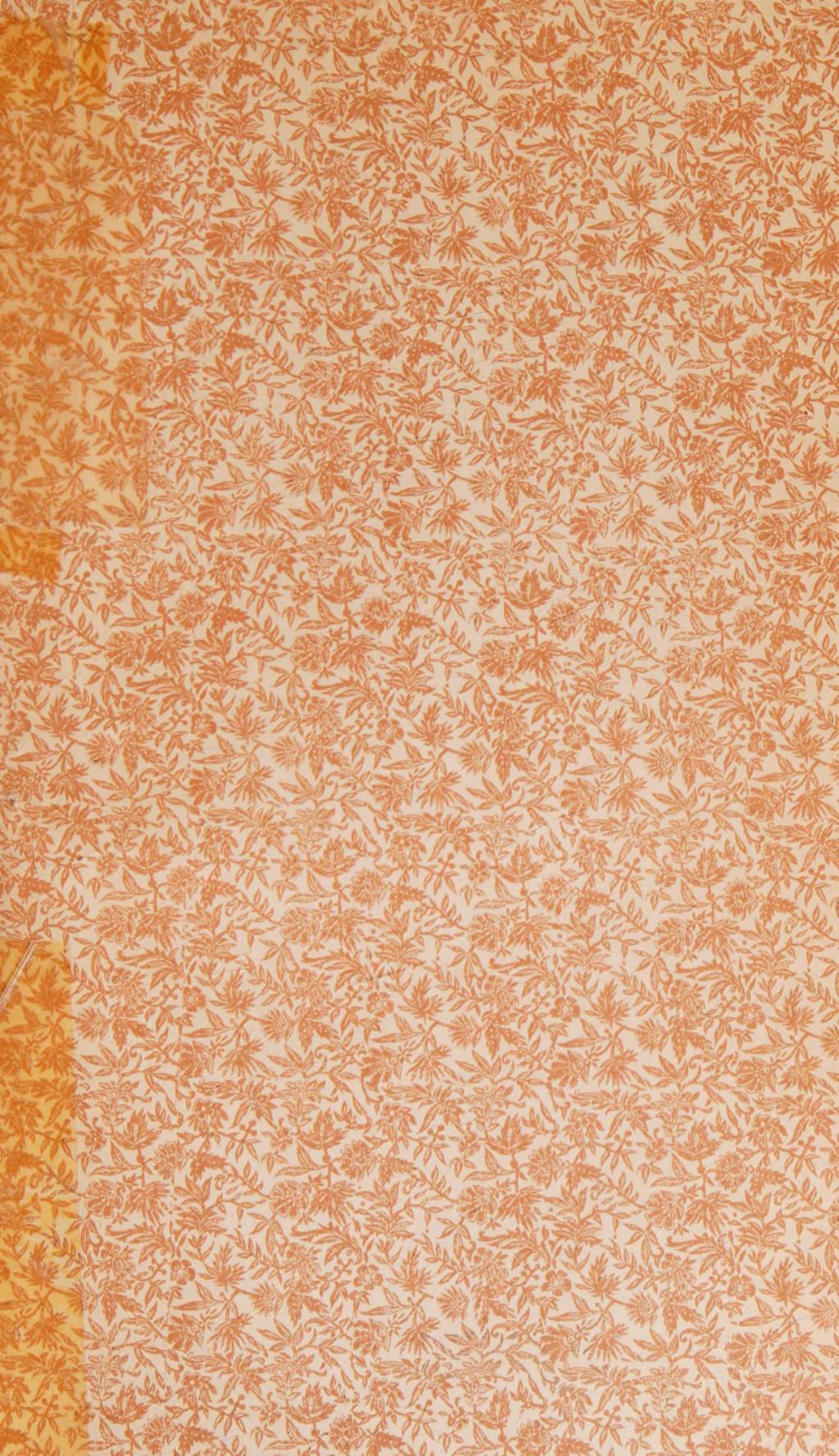




Critical Study
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AND OF
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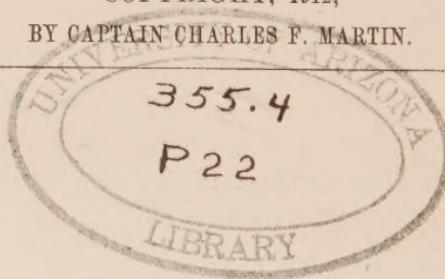
BY MAJOR DE PARDIEU.

Authorized Translation
By CAPTAIN CHARLES F. MARTIN.
Third U. S. Cavalry

UNITED STATES CAVALRY ASSOCIATION,
FORT LEAVENWORTH, KANSAS.

1912

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TRANSLATOR'S PREFACE.

This study of German Tactics by Major Pardieu, Chief of Staff of the Military Governor of Dunquerque, was immediately after its publication in France translated into German and into Russian; it would not have received this prompt attention by the Germans and the Russians had it not been a work of unusual importance.

The translator ventures to hope that it will be of special value to officers of our service, not only because it presents a comprehensive résumé of the German tactical creeds, but also, and more especially, because it constantly compares the German and the French tactical methods. It shows the essential difference between the tactics of the two great military nations.

"A Russian," says the author, "is different from a Japanese, a Turk from an Italian." So a Frenchman is different from a German, and an American is not like either. It is well not to lose sight of the principle, often enunciated by Major Pardieu, that no given system of tactics can be applied in the same manner to men of different temperaments. The psychology of the soldier must be studied and the system adapted thereto.

It seems to the translator that it is because of this necessity of studying the psychology of the soldier that we should find valuable the work of Major Pardieu, who points out where and why the greatest military thinkers of France and Germany differ in their methods of application of the fundamental principles of tactics.

CHARLES F. MARTIN,
Captain Third Cavalry.

Ft. Leavenworth, Kansas,
September 30, 1912.



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FOREWORD.

The Germans followed with the keenest interest the war in Manchuria, in which were engaged their pupils in tactics—the Japanese. It was with just pride that they learned of the successful application by the Nipponese of the principles of tactics which they had taught them.

This war in Manchuria had a considerable influence upon German military opinions. Its teachings were passionately discussed; and often, upon information shown by subsequent investigation to have been false and exaggerated, systems were built up and theories expounded.

For many years, thinking men had already been debating the regulation principles in force; von Scherff, Balck and Boguslawski on one side and von der Goltz, Loringhoven and Schlichting on the other were arguing over the questions of forms of combat, the initiative to be left to subordinates, methods of instruction, etc.

After the experience of the battles in the Far East, it appeared necessary to revise the existing regulations, which dated from the period between 1888 and 1895. The work of revising the German Regulations, which

The following abbreviations are used in the course of this work:
I. R.—Infantry Regulations; A. R.—Artillery Regulations; H. A. R.—Heavy Artillery Regulations; C. R.—Cavalry Regulations; M. G. R.—Machine Gun Regulations; F. S. R.—Field Service Regulation.

The numbers, usually in parentheses, indicate the paragraphs of these various regulations.

was commenced in 1906, has just been terminated. All of them have been revised and made to agree.

They bear the following dates:

Infantry Regulations: May 29, 1906.

Artillery Regulations: June 25, 1907.

Field Service: March 22, 1908.

Heavy Artillery: November 10, 1908.

Cavalry Regulations: April 3, 1909.

Firing Regulations: October 1, 1909.

The study of these regulations is most interesting and most useful; we glean from them the general and special principles of the German tactics.

It seems now to be opportune to make a résumé of them in a work treating of them as a whole, and to discuss their various precepts.

But the study of its regulations is not sufficient to gain a knowledge of an army from a tactical point of view. One must know first its habits, its traditions, its morale; its doctrines must be studied in the book of its authors of repute who represent the thought of the staff and of the different arms.

“When regulations are conceived in a spirit as broad as that of the present regulations,” says very judiciously *La Revue Militaire des Armées Etrangères* (No. 982, p. 251), “not even a very careful analysis of the texts can suffice to fix definite and undebatable interpretations of the principles set forth in them.

“Regulations are of value only through the spirit in which they are applied; it is only in the long run then that their influence can be exercised, especially in an army in which the force of tradition is as strong as it is in the German Army.”

Likewise it must not be forgotten that the tactical methods of an army must conform to the physical and moral characteristics of the soldiers that compose it. The great strategical or tactical principles of war are the same for all armies; but the details of execution, the procedure must vary according to the morale, the temperament and the mentality of the men to whom they are applied. A Russian is different from a Japanese, a Turk from an Italian. It is, therefore, natural that regulations should differ from one army to another.

The great difficulty in the adaptation of the regulations to the tactical necessities imposed by the armament and to the special character of the army for which they are made.

Before studying the regulations of an army, it is necessary in order well to understand the spirit of them to be acquainted with the special aptitudes as well as with the character of the nation.

The German army is sufficiently well known for us not to have to speak of it. It is known what a good material for war, as we may term it, the German soldier is. He is thoroughly disciplined, he is vigorous, he is brave. Moreover, at the last large maneuvers he showed admirable endurance.

What he lacks most is the spirit of initiative, quick intelligence, the faculty of getting out of difficulty.

Excellent when supported and when under a chief, whom he blindly obeys, he is lost as soon as he is alone or when he no longer feels himself to be led. His morale weakens, he is incapable of making resistance or of taking the initiative.

The German soldier is heavy physically and morally. He has less fiber than the French soldier. He allows

himself to be discouraged less easily, but when he has lost his moral force he is incapable of again getting himself in hand like the latter. After Jena and Auerstadt Prussia no longer made the slightest resistance.

As will be ascertained in the course of the present study, the new tactics imposed by the armaments favor the French soldier and appear prejudicial to our neighbors on the other side of the Rhine.

German authors confess it themselves. We borrow from the famous book, *A Summer Night's Dream*, (by an old infantryman), which made such a stir in military circles twenty years ago, the following estimate, which is still accurate:

“The German soldier, accustomed in time of peace to strict discipline, rigid attitudes and absolute obedience, is, in action, disconcerted by disorder, and thrown into confusion by the absence of his leaders. He has need in the hour of danger of the presence of an officer. Under the influence of his officers he will do anything that duty and discipline demand; he will follow his leader to certain death with calm and dignified enthusiasm, but left in a crowd he will quickly lose his head and forget what his education in time of peace will have taught him.

“It is not so with the soldier of a Latin race, who has a strong tendency to act for himself and in whom individual qualifications stand out to a very marked degree.”

In the pages that follow, has been sketched a study of the principal points of German tactics as they are deduced from the new regulations and from the discussions to which they have given rise.

An effort has been made to find the spirit and the tendency in the letter of the regulations, and to make an estimate of their value according to the German character and temperament. We have passed through the sieve of criticism (which has been made as impartial as possible) the "regulation" precepts and the tactical ideas of our powerful neighbors.

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A Critical Study of German Tactics AND OF The New German Regulations.

PART I.

DETAILS CONCERNING THE THREE ARMS, INFANTRY, ARTILLERY, CAVALRY.

CHAPTER I.

INFANTRY.

The Infantry Regulations of May 29th, 1906, are the oldest of the new regulations. They have been the basis of the tactical development effected within the last few years in Germany. They are not confined merely to the precepts pertaining especially to the Infantry, but contain as well certain rules of tactics for the three arms. These latter will not be considered until the discussion of the subject of the battle.

In this chapter we shall take a glance at the part that especially concerns the Infantry, and consider the points of difference from the French Regulations.

GROUP LEADERS.

The question (which we have already referred to) of the character of the German soldier, *i. e.*, that of his

slow wittedness and his lack of initiative, has been a cause of uneasiness to those commissioned to revise the regulations.

The extended order, absolutely imposed by the conditions of modern combat, is not favorable to the German infantry. Hence, the regulations, while recognizing the necessity of extended formations, have sought to preserve at least a certain arrangement of groups under the authority of a leader. There has been constituted what is called a group or squad, that is to say an assemblage of four files. This little group is to maintain its cohesion as far as possible; it has a responsible leader.

This leader directs the march in open order; he repeats the orders of the chiefs of section or takes the initiative as to orders in case of necessity; he urges on his men in the advance. According to the orders of the chief of section, the squad leader regulates the fire; he causes it to begin or to cease, according to circumstances. "He takes part in the firing only when his duties permit him to do so." (I. R. 165.)

Thus is seen the attention given in the regulations to the matter of never abandoning the soldier to himself and of keeping upon him as much as possible the yoke of authority to which he is accustomed. Even in the most extended formations the soldier finds near him an active authority and a vigilant surveillance.

We have nothing similar to this in France; we do not need it. Our corporal, it is true, directs his squad when it is isolated or separated; but in firing, in action, the corporal is no more than a private. He takes part in the firing like the other soldiers; he no longer commands; let us hope only that he will set an example.

CHIEFS OF PLATOONS.

The subaltern officer finds his rôle broadening more and more in modern warfare; he must be a brain, he must be a leader, he must be an example.

Even more in Germany than in France has the rôle of the platoon leader become of the greatest importance; the German regulations give him initiative but also responsibility; his duties are the same as those prescribed in France. The regulations insist upon the necessity of his getting his men back in hand as soon as circumstances permit; one feels that our neighbors always fear that the men on the firing line may escape from the authority of a leader.

The Germans count absolutely upon the bravery and the devotion to duty of their officers; they are right. More and more will warfare of the present age become a war of leaders, more and more will it be necessary to have sterling officers in whom can be placed absolute confidence.

In his very interesting observations, Captain Sоловьев, after returning from Manchuria, wrote: "From the first rifle shot the center of gravity is found in the officer, and then is made manifest his true rôle, the enormous responsibility that rests upon him. In action, the officer must be more than ever a leader, and the discipline must be of iron. * * * Unfortunate are the troops that are not in time of peace imbued to the core with the principles of discipline!"

The Germans are imbued with these principles. In time of peace their officers are surrounded with prestige, under conditions that to us may seem exaggerated but which correspond well to the rôles of these officers on the battlefield.

The discipline is indeed of iron in a country where discipline is found in the customs and manners; naturally it is there all the more necessary that troops shall advance only upon the condition of being led.

A few remarks as to details: In Germany, the officer, who is posted ten paces in front of his squad leaders, is accompanied on the battle field by a bugler and by two estimators of distance. These estimators, in addition to their special duties, have that of observing the enemy and the neighboring units; the bugler has that of keeping in touch with the captain. Thus is manifested in the very smallest units, the anxiety concerning the maintaining of connection, now so important.

If the Germans require the officer to set an example in time of danger, they have also been careful not to mark him out to the enemy's blows; they have clothed him so that in combat he is difficult to distinguish from the soldier.*

DEPLOYMENT AND MARCHING UNDER FIRE.

The deployments and marchings are executed after the same general principles as in France. The regulations recommend throwing out at the beginning a dense line of skirmishers in order to acquire at once the su-

*An order from the headquarters of the Emperor's government under date of February 23, 1910, directed that all officers have a field uniform absolutely similar to that of the troops.

In France, an officer can be recognized at the greatest distance in the midst of his troops, thanks to his dissimilar uniform; by the aiguillettes (as conspicuous as they are useless), which ornament his breast, a staff officer can be distinguished from a troop officer; likewise a general officer is recognizable, his uniform differing sufficiently from that of other officers. Radical measures should be taken to correct this.

periority of fire. To this end a company will deploy, usually, not more than one or two platoons; for, "upon the offensive, the company in the battalion can scarcely deploy more than two platoons on the front it has at its disposal." (I. R. 463). But the battalion commander will put in the first line the number of companies necessary for the object to be attained.

The Germans fear greatly the mixing up of units, and seek by every means to avoid it. Hence, they always recommend fighting with units distributed in depth. The principle is entirely correct; but in a particular case, for the deployment of a company, it might be debated. If a very dense firing line is desired, there must be deployed at the beginning a great number of platoons. As we shall see farther on, the fronts are becoming more and more considerable in modern battles; the battalion has therefore ample room for the deployment of four, five or six platoons. If one or two platoons in each company are deployed, the four captains remain with a support of from two to one platoons which, independently of one another, they throw into action when they judge it proper. These little successive reinforcements do not bring to the firing line a very strong impulsion, certainly not an impulsion that will be sufficient to carry forward the firing line or, because of the suddenness of the support given, to gain the superiority of fire. It seems preferable to put into the first line one or two companies at full strength; the battalion supports to be formed by the other companies. The battalion commander will then cause the reinforcement to be made by entire companies. Such a reinforcement

produces an appreciable effect which should be immediately turned into a tangible result.*

Captain Soloview sees this matter in exactly the same light; "The deployment on the firing line," he says, "should be made by entire companies. There is no reason for company supports; they suffer losses, they do not permit the immediate deployment of the powerful fire necessary from the beginning."

The advance under fire is made as a rule, in Germany, by rushes, or advances of entire platoons, the fire of one platoon supporting the advance of the neighboring platoon. The chief of a fraction has, in France, full liberty to take the measures that to him appear best to insure movement to the front.

Up to the present time, it does not seem that the Germans have taken sufficient account of the effects of infantry and artillery fire. In their last large maneuvers we still saw skirmish lines that were too large advancing imprudently on open ground, by rushes of 50 to 80 meters. Within the fighting ranges, between 800 and 400 meters, skirmishers, on open ground, can advance only by infiltration, or at least by small, widely spaced fractions running or crawling. The advance can no longer be made other wise: the engagements in Manchuria have proved this. The Russians and the Japanese are agreed on this point; it no longer permits argument.

Hence the methods of advance still employed by the Germans appear to be very hazardous.

*It should be remembered that the foreign company consists of over 200 rifles; as a rule company supports are considered. We as a rule do not contemplate them.—*Translator.*

BAYONET ACTION.

“To attack,” say the regulations, “is to carry a firing line as near as possible to the enemy. The assault with the *arme blanche* definitively seals his defeat.” (I. R.)

For a long time the Germans believed in the all-powerfulness of fire action; the assault was only the manifestation of the victory won by fire action. The old Infantry Regulations said indeed: “In the majority of cases the firing will produce such an effect that the assaulting troops will find nothing more than a position feebly defended or even abandoned by the enemy.”

The general staff wrote in its “Conclusions from the War of the Transvaal”: “The assault, the final shock will merely cause a ripe fruit to fall.”

Today the Germans recognize bayonet action; the War of Manchuria gave striking proof of the necessity for and the importance of this action.

It has been established, of course, that the concentrated fire of the infantry and of the artillery is necessary to prepare the attack, but that however violent they may be they rarely succeed in dislodging the adversary.

“Never,” says Captain Soloview, “were our positions taken, especially fortified positions, by fire action alone. If we abandoned any to the enemy before actual contact with him, it was by order and was not compelled by the adversary.”

If by day a combat of fire action is sealed by the hand-to-hand struggle, at night a fight is not made, so to speak, except with the bayonet.

The losses experienced in Manchuria from side arms amounted to eight per cent.; that is, they were

almost equal to those caused by artillery fire. These figures have an eloquence that needs no discussion.

The bayonet has maintained, therefore, a preponderant role; the Germans have recognized that fact.

Their regulations give no definite instructions as to the manner in which contact is to be produced and accomplished; they are not at all precise as to the method by which it is to be attained; we shall speak of this again.

The Germans do not like fighting with the bayonet, to which the French are so well adapted. It is a method of fighting that requires suppleness, initiative, a transport of enthusiasm, an impetuous fury. In all times the French have excelled in hand-to-hand combat; the *furie française* has been traditional for centuries.

THE USE OF GROUND.

"Ground can be utilized judiciously only when a reconnaissance of it has been made in advance." (I. R. 305).

The commanders of the different echelons must not hesitate, before the fire has been opened, to precede their troops for the purpose of reconnoitering the ground over which the approach to a position is to be made.

The advance of the troops must be adapted to the terrain, but from the time the firing is begun the care devoted to this must not retard the forward movement, nor, above all, oblige any of the fractions to remain in rear. Art. 306.

It must be remarked that this use of ground is limited, in the German regulations, to the preserving of the direction. Hence under no pretext may a unit leave the zone that has been assigned to it. The Ger-

man regulations differ in this respect from our French regulations.

"Whereas the French regulations," says the *Revue Militaire de l'Étranger*, "accord a preponderant influence to the utilization of the terrain, the German regulations subordinate it pitilessly to the matter of maintaining the direction. Each tactical unit, battalion, regiment or brigade, must, within the marching zone assigned to it, utilize to the best advantage the accidents of the ground but it has not the right to encroach upon the zone of its neighbor; it must not hesitate, it if has at its disposition nothing but open ground, to carry on the fight over it to the end."

These precepts are to be remembered, we shall consider them again; they are pregnant with consequences.

Exposed ground, then, is to be utilized for the advance of an attacking force; but the distances are to be increased and every precaution taken to avoid losses.

The regulations recognize that for the offensive open ground is unfavorable, but if some is found in the sector of an assaulting force it must be occupied and utilized as advantageously as possible.

The riflemen are taught to make use of the shelter they find on the ground. In the sector reserved to a platoon, the men may move as they will to take advantage of shelter. It is forbidden to the chief of a platoon to halt his men in a place where they would be unable to use their weapons in the prone position. This last prescription should be in the French regulations; it is inadmissible that the skirmishers should be obliged, in order to fire, to uncover themselves by taking a kneeling or a standing position.

The employment of hand entrenching tools is especially recommended for the defensive, and from the examples of the Turks, the Boers and the Russians, it is quite certain that in future wars a considerable use will be made of field fortifications.

The Germans authorize these protective works only on the defensive.

“On the offensive,” say the Infantry Regulations (Par. 313), “the tools may be used momentarily in places where it is desirable merely to hold a position taken. It must not, however, be forgotten that the time of every halt is more profitable to the defenders than to the assailants. If to this disadvantage there is added the tremendous difficulty of getting a force of infantry out of the shelter which it has painfully dug for itself, to throw it under a violent fire of the enemy, particular prudence will be exercised in using the spade in the course of an attack.”

These remarks are completely justified, and, as a rule, the Germans never, in their maneuvers at least, make use of their spades in offensive movements. It seems that they are quite right.

CHAPTER II.

ARTILLERY.

For some years Germany has been considerably increasing her armament; she has equipped each army corps with powerful artillery strength, which consists at present of:

	Guns.
21 batteries of field guns, six pieces per battery.....	126
3 batteries of six pieces of light howitzers, 10.5 cm.	18
Total.....	144

Eventually:

1 battalion of foot artillery of 4 companies of 4 heavy howitzers each, 15 cm.....	16
	160

Certain army corps intended to operate in the zone of the hostile barrier forts will receive a supplementary assignment of two batteries of mortars of 21 cm.

This considerable increase of artillery has just been completed; the last army corps received in 1909 its complement of armament.

France has had to follow the lead of Germany; she has recently decided that her army corps shall have 120 guns of 7.5 cm. In spite of this fact, the French artillery will remain sensibly inferior in numbers to that of the Germans.

REASONS FOR THE ARTILLERY INCREASE.

It is of interest to seek the reasons that induced our neighbors to make the large increase in their artillery.

It has been seen that the exigencies of modern tactics in compelling extended order in infantry action were very unfavorable to the Germans; their infantry had certainly lost some of its strength. The Germans themselves admitted that they were inferior to the Latins in a mode of action in which individualism and initiative played the principle roles. The German authorities have sought by acquiring numerical superiority in artillery to counterbalance the undeniable loss of power suffered by their infantry.

Napoleon made the statement: "Mediocre infantry needs a great deal of artillery." In fact he greatly increased his artillery in 1813 when youthful infantrymen replaced those he had lost in Russia and in Spain.

Assuredly, the German infantry is not mediocre, we have recognized that fact; but it has lost some of its power. No longer being able to give close mutual support in the ranks and to maintain in the close thrall of discipline an infantry command scattered about over a battle-field, Germany has sought to frame it in solidly with cannon and to keep it in hand by a never ending support of shrapnel. She has hoped to be able to give it satisfactory support by causing it to be accompanied everywhere by artillery fire.

It is a fundamental principle now recognized that infantry in modern combat needs artillery to succeed in an attack of any importance. Simultaneous and co-operative action of the two arms is a necessity.

In order to obtain this co-operation, it is necessary always that the artillery be able with its fire to strengthen that of the infantry. There are, therefore, needed guns that are freed from all the strain of the

artillery duel and are able to devote themselves solely to the infantry struggle.

This result can be attained only by acquiring the superiority of artillery fire. The French field piece is unquestionably superior to the German. To obtain in spite of that fact, a superiority on the battle field our neighbors have insisted upon acquiring a numerical superiority; they have created a formidable field artillery.

Since artillery protected by shields is scarcely vulnerable to the projectiles habitually used in field pieces, they have supplied their armies with howitzers capable of destroying opposing artillery, even though it is defiladed, and of reaching sheltered objectives.

Still another reason has incited the Germans to provide many of their army corps with heavy howitzers. At the time when their investigations looking to the reconstruction of the matériel of their artillery were being made, the Russo-Japanese War had just ended. In that war almost all the battles had been seen to develop about fortified positions; it had been observed, as was shown at Plevna, what little effect the ordinary projectile had against field fortifications and what difficulty was experienced in approaching a position that had been put in condition for defense. It had been also proven how difficult it is with the field projectile to destroy opposing artillery especially when it is defiladed.

These observations have led the Germans to create batteries of very powerful guns using curved fire, able to destroy fortifications, to reach the personnel and the matériel when sheltered, and to destroy artillery with shields. Plevna had caused the construction of light howitzers; Mukden produced the heavy howitzers.

Germany hopes that with numerical superiority, with the power of her light howitzers and eventually that of her heavy howitzers, she will be assured absolutely of the superiority of fire, the primary object of her efforts.

Furthermore, the formidable increase of the German artillery has been induced by some other reasons of a tactical nature. Battles in future will be fought over very large fronts. The Germans, as we shall see farther on are strong partisans of enveloping action; they are always extolling a frontal attack combined with a movement overlapping a wing. In order to effect these overlapping movements, if you are not superior in numbers, you must occupy the enemy and hold him on the front. The enveloping movement might become dangerous if the line in front should happen to be broken. A numerous artillery facilitates the German tactics. The front can be widened; the gaps in open ground can be guarded by the artillery and the machine guns.

Finally, a strong artillery is very useful in turning movements; it permits, with its converging fire, of obtaining a crushing effect upon the points of attack of the outer flank of the enemy.

The motives which have led the Germans to increase their artillery thus clearly appear. They arise from moral considerations, from studies upon the effect of fire, from experiences in the Manchurian war, and finally from the necessities imposed by their fighting tactics.

Some Technical Questions.

PROTECTION OF THE ARTILLERY.

One of the first questions pertaining to artillery that it is interesting to study in the German documents and books is that of the protection of the guns.

Artillery is protected by the shield, by entrenchments, and by means of defilading. What use is made by the Germans of these means of protection?

We know that the German gun shield protects the gunner better than the French shield; it is larger. That is a slight advantage.

The German artilleryman takes great care to give himself additional protection by means of entrenchments. "The batteries are protected by earth embankments on the front and on the flanks." (A. R.)

"Embankments for protection against the enemy's fire may be employed everywhere, even on the offensive." (A. R. 372).

That is a wise measure when defiladed from the view of the enemy, but it is a question as to whether it may be possible for batteries using direct laying when facing a vigilant hostile artillery.

The question of defilading has been most widely discussed in Germany. After having been greatly in favor, the complete defilade has been vigorously attacked; and the regulations while recognizing its advantages point out its defects. They do not recommend it on the offensive, and formally forbid it to the infantry batteries.* "In order to make the infantry

*Batteries designated to devote their entire attention to the support of infantry in action.—*Translator.*

action decisive," say the Artillery Regulations (Par. 367), "the field artillery should, renouncing the advantages of a masked position, fire almost always from a position which is only half masked or uncovered."

Then (in Par. 467), "The artillery should utilize even in the attack the advantages of the masked position, but it will have to choose half masked or uncovered positions when the conditions of the action require rapidity in the opening of fire and the changing of objective."

On the defensive, the regulations recommend the defilade for the batteries to be used against the adversary's artillery but not for the infantry batteries. In Par. 504, they say: "A masked position will offer advantages. * * * The position will thus not be disclosed prematurely, maneuvering can be done under shelter of the mask * * * ; but on the other hand, the necessity of turning an effective fire upon the live targets of the infantry attack demands the abandonment at the proper time of the masked position."

The ideas at present prevailing in Germany seem to be unfavorable to the defilade. General von Rohne, the principal exponent of the new ideas, wrote in 1907: "We reach this conclusion, that as a rule positions should be chosen so that a piece can at least aim directly * * * ; let the masked positions be left to the howitzers. My deductions are directed merely against the tendency to lay down as a rule the employment of masked positions; * * * the field guns possess in the shield quite sufficient protection; we may ask of the artillery that it raise high that old maxim of artillerymen, 'Efficiency before protection,'" (From Officers' Manual, Field Artillery Tactics.)

These words from a general officer who is chief of the German artillery fully show the trend of present German thought.

Hence the Germans look for protection to their shields and to earthworks much more than to defilading, which appears to them to have very unsatisfactory features.

In France, on the contrary, we strive after complete defilade (defilading even the gun flashes, if possible) for all the artillery not intended for use as infantry batteries.

The Germans recommend for most cases the half-masked position, which is a little more than the defilading of the matériel—it is placing the sights, elevated by means of an extension leaf, on the line of defilade.

This half-masked position is intrepid; it is far from prudent when opposed to defiladed artillery which knows how to utilize its fire as does the French artillery.

When it is a question of supporting the infantry, tactical considerations come first.

The infantry batteries stay in the decisive phase of an action without respite or cessation; they must see and act in accordance with the fluctuations of the infantry combat; they must be able to keep under fire every part of the ground in front of them.

If in order to see what is going on, the captain has to leave his battery, the transmission of orders will be imperfect; the indirect fire which German batteries are obliged to use when defiladed will be delivered under poor conditions, and if the captain should disappear the fire will be interrupted. In the infantry batteries there is not the comparative calmness that exists in the

counter-batteries; it is like being in a furnace, coolness is partly lost, friction is more severe.

The French regulations wisely prescribe that the infantry batteries shall place themselves in such positions as will enable them to accomplish their mission without considering defilade, and this prescription is still more strictly imposed upon the German artillery which has not the same sighting facilities.

FIRING.

The questions of fire properly speaking are technical questions which do not have to be treated here. We may observe merely that the German artillery has been handling rapid fire guns for only a short time; it is not yet thoroughly accustomed to their use, and has not yet completely established firing methods for them.

The artilleryman's instrument of the present day requires a delicate manipulation; the workmen must have real dexterity and much experience. The German cannoneer is far from having attained perfection. Despite great progress accomplished in the past year the battery commanders have not yet acquired the mastery which must be attained. The German reports admit it.

General von Rohne writes: "It will take several years for our artillery to learn how to get the best results with its perfected *matériel*."

France is incontestably more advanced. Her 7.5 cm. guns are well understood, the methods of fire are carefully worked out, the officers and non-commissioned officers have acquired a technical facility which the inspectors general have unanimously recognized.

By this advance France acquires an undeniable

superiority which would be strikingly manifested on the battlefield.

How true, especially with the present materiel, is the reflection of General Francfort: "It can not be too often repeated that the quality of batteries, the quality which is that of their commanders, is of incomparably greater importance than their quantity."

Hence it may be frankly proclaimed that the 120 guns of 7.5 cm. of the French Army Corps could contend without disadvantage against the 144 or even 160 guns of the German Army Corps.

RECONNAISSANCE.

The reconnaissance question has assumed a peculiar importance in the German regulations.

The reconnaissance of positions is to be made with the greatest care; the squad leaders, the battery commanders have in this respect the same duties as in France. The instructions relative to reconnaissance before opening fire should be noticed: "A reconnaissance made in the required time and pushed through," say the regulations, "is the fundamental condition of success. The time necessary to accomplish it must be taken."

And here the regulations are not speaking of reconnaissance of positions but of reconnaissance of the enemy in general, and of the hostile artillery in particular.

"The reconnaissance," it is explained, "is commenced by rapidly sending out officers' patrols and scouts. *They may be sent with the cavalry.* Their mission is to *discover the strength, manner of deployment and the position of the hostile artillery.* The information

gained by the reconnaissance of the other arms, which it is important for the artillery to know, is sent to it by the commander of the forces.” (A. R.)

These instructions would seem astonishing if we did not know that the Germans have a tactical conception different from ours in regard to the manner of engaging combat.

We do not admit, in France, that before an engagement we can decide upon very much as being certain concerning the enemy, other than the apparent outline of his position or of his marching zones. It takes fighting, we believe, to penetrate the protecting curtains of the enemy and read his hand. In Germany they aspire to reading it, in part at least, before engaging in combat; they hope that a well organized system of secret service and the cavalry will provide the means for so doing. In conformity with this theory the regulations of the German artillery prescribe that it shall not, as a rule, become engaged until there is sufficient information in regard to the hostile artillery.

This theory is undoubtedly based upon what occurred on the Japanese side during the Manchurian war. Almost always the Japanese knew the positions of the Russian batteries at the time when the engagement was commenced. But it must be observed that the Russians constantly remained on the defensive; their artillery was often placed in advance in their positions for action. Moreover, the Japanese had a marvelously organized system of espionage, thanks to the combination of exceptional circumstances.

Those conditions cannot appear in a European war; the examples of the Russo-Japanese war do not in any way justify the German “regulation” requirement.

We shall consider this subject again, but we confess at once that we do not understand how artillery can aspire to know, before engaging, by simple reconnaissance, "the strength, the dispositions and the positions of the hostile artillery." (A. R.). That knowledge can be acquired before the combat only in case the enemy is immobile, fixed in an absolutely defensive position, deployed before the beginning of any attack.

General von Rohne does not seem to approve these reconnaissances prescribed by the regulations. "The sending by the artillery," he says, "of officers' patrols on reconnaissance is an innovation. I do not share the hope that they have induced any new aspects. In any case too many must not be sent; for it is problematical whether they will bring in soon enough to be useful any information of much importance. It is certain on the other hand that the officers will be absent when the firing is going on, and certainly it is to fire and not to give information that artillerymen have been created."

It is not possible to speak more sensibly.

LINES OF INFORMATION.

The regulations insist upon the importance of assuring lines of information between the different echelons of the command. They prescribe the most frequent use possible of the telephone and of signals. "These two methods of transmission are the most practicable in combat; horsemen, runners and relay posts will be employed under fire in exceptional cases only." (A. R.)

One can but approve these instructions. In France we are behindhand with respect to communications, we still have a marked preference for communica-

tions by mounted men. Telephonic communication, and, failing that, communication by signals, ought to be the rule, and to emphasize it it would be well to use them exclusively at the maneuvers.

In Germany the communications of the "infantry artillery" with that infantry is kept up by means of officers. These officers connected with the artillery by telephone or by the optical apparatus, take positions in rear of the infantry and observe its movements; they inform their artillery of everything that takes place and direct its fire according to the needs of the infantry.

This system has not been adopted in France; it offers several disadvantages. In order to perform satisfactorily his mission, the officer of communications, detached in the vicinity of the infantry, must be well posted on the tactics and on all needs of that infantry; he must have very extended general military information; these are conditions not to be found among all young artillery officers, and officers of the higher grades have more important things to do than to be communication officers. Moreover, whatever be the knowledge of that officer he can not divine the thoughts and the intentions of the infantry commander; he is, therefore, unable to direct the artillery fire according to the present and future needs of that infantry.

It is much better that the officer or the agent of communications be with the infantry commander, as has been recommended in France by the Artillery Committee. This communication agent ought to be always connected with his artillery by telephone and by signal men and ought not to return to it except when he is unable to communicate with it by other means.

HOWITZERS.

MISSION OF THE HOWITZER.

The French military authorities assume that the 7.5 cm. gun can do all the work required by combat in flat open country. France has no howitzers in the army corps. The 15.5 R. guns are theoretically reserved for armies. The Germans created after Plevna their light howitzers; then finding that these pieces did not have sufficient power, they provided a battalion of heavy howitzers for each army corps.

We shall not discuss here the value of these howitzers from the point of view of ballistics. We shall merely have a glance at their tactical employment, which has been presented in regulations according to the hopes founded upon their firing.

The missions which are incumbent upon the howitzers are principally:

1. To reach and destroy artillery that is recognizable, defiladed or behind earth works sheltered from direct fire.
2. To reach infantry hidden in the trenches or behind obstacles.
3. To crush the shelter of the enemy and, at the moment of assault, to render untenable his points of support.

The field gun, the Germans say, can not accomplish any of these roles; it is indispensable that the army corps be endowed with the means necessary to obtain these objects.

The howitzers can fire from a greater distance than the guns. They will be placed back of the latter and often even behind, care being taken to defilade them

well so long as superiority of fire shall not have been required. If they are protected, the howitzers will be able to regulate their fire almost as if on the maneuver terrain; if they have a good system of orientation they can be sure of having their fire well regulated and of obtaining effects that will assure to them an incontestable superiority of fire over the opposing artillery. Such is, summed up, the theory of the partisans of the howitzer.

HEAVY HOWITZERS.

With respect to what concerns especially the heavy howitzer, the regulations of November 18, 1908, have appeared to regulate the employment of them and to mark their place. It is interesting to glance through these regulations to find developed there the theory of the duties assigned to the heavy artillery just mentioned.

In a general way the heavy artillery must "Act as a first line to put out of action the arms of the enemy, then to destroy the enemy's shelter and the obstacles which hinder the advance of its own troops; finally to prepare the assault." (H. H. R. 387.)

This is its general rôle in four lines.

"It is not to be engaged," say the regulations, "until after a thorough reconnaissance has been made and light has been obtained upon the situation." Here is again the same attention to reconnaissance as for the field guns, but to a higher degree.

The regulations mention that "The action of the heavy artillery is decisive against artillery that is recognizable (not necessarily visible), against infantry in or behind shelter and especially against strongly constructed shelter." (H. H. R. 358).

They speak then of the importance of lines of information and of the system of auxiliary observing stations. They recommend in this respect the *widest* possible use of the telephone, of signal men on bicycles, and couriers. "The howitzers will be defiladed; they will often be placed behind the field artillery." (363.) "It is desirable that, during an offensive action, all the duties with which the heavy field artillery may be charged can be affected by the occupation of a single position; this position should therefore be as near the enemy as questions of fire efficiency and battery protection will permit." In this way long and difficult changes in position will be avoided.¹ The prescriptions of the regulations are summed up in these few lines.

HOWITZERS IN CURVED FIRE.

Will the curved fire of the howitzers produce any considerable effect? Can much be expected of their fire? It is worth while to devote a little attention to the question. We have shown above the missions that devolve upon the curved fire of the howitzers; what will be the result of it?

Against a line of intrenched infantry, against an objective, troops or artillery defiladed from direct fire, the howitzer will be able to render some service. The principal requisite in order to reach these objectives will be to be perfectly informed as to their emplacements; it is a primary difficulty. Imperfectly regulated fire will produce nothing.

In order to have the hope of getting some projectiles on the target it will be necessary to fire a great deal, even with accurate firing; whence a great consumption of projectiles, the replenishing of which is difficult.

If after the reconnaissance or during the firing the objective changes position the results will be annulled. As soon as this change of position becomes known the fire will have to be modified; that will be long and difficult. If, finally, the emplacement is only approximately known, it will be necessary, in order to have any chances of striking it, to use progressive fire; and what expenditure of ammunition will then be entailed!

We believe with General von Halten, "One or several happy shots will cause only minimum losses to the defenders, and that after a tremendous consumption of ammunition."

In every case where a mobile objective, even though masked, can be reached by direct fire, the fire of the field guns will produce a great deal more effect than the curved fire of the howitzer.

If the objectives are obstacles, shelters or fortifications, these, being stable and permitting the use of auxiliary points of aim will be much more easily struck by curved fire. The shells that strike the target will produce thoroughly destructive effects, though quite localized.

However, it must be acknowledged that curved fire alone will be capable of handling fortifications and points of support which the enemy has had time to prepare and to make strong enough to afford protection against direct fire from less powerful projectiles.

Numerous German authorities appear to be sceptical as to the results to be expected from curved fire. Firing of this class seems to be absolutely necessary only against semi-permanent fortifications.

Major Ruprecht who has very thoroughly studied this question of curved fire of howitzers sums up his

discussion of the subject of the fire against troops or artillery by saying: "We cannot accord any special efficiency to the howitzer against a masked objective * * * ; against half masked batteries these pieces will not give brilliant results; against mobile objectives *they can do nothing.*"

One example among a hundred drawn from the Manchurian war goes to prove the accuracy of this assertion. A Russian artillery officer, a participant in the battle of Si-Ho-Ian, of June 18, 1904, writes in speaking of the artillery duel: "However the Japanese, not satisfied with the incessant fire of shrapnel which they were delivering with feverish intensity, passed shortly after the opening of fire by one of our newly arrived batteries to fire with lyddite shells directed particularly against that battery; but, to our astonishment, notwithstanding the superiority of position of the Japanese batteries, from which they must have clearly distinguished the Russian batteries, and notwithstanding the infernal intensity of their fire, the Russian batteries suffered relatively little and *continued their fire.*"

APPRECIATION OF THE GERMAN HOWITZER.

The *light howitzer*, it must not be forgotten, uses direct fire like the field guns; it will therefore utilize curved fire only when that is absolutely necessary. It is a piece with a double purpose capable of struggling everywhere with the field gun; it fires less rapidly, but it sends a projectile twice as powerful. Its ratio of efficiency against troops is certainly inferior to that of the field piece; but against shelters or obstacles it can by its power render service superior to that of the latter.

Finally it must not be forgotten that these large caliber pieces, whose projectiles are charged with high power explosives produce very considerable moral effects. This must be borne in mind.

The best German authors generally extoll their qualities and are strong advocates of them.

In our opinion the **light howitzer** is a useful weapon, which will be able to render great service, but its efficiency in the majority of cases is not sufficient.

As to the **heavy howitzer**, it has a great many detractors. It has been strongly criticised in Germany by a certain school (Generals von Halten, Rohne, etc.) It appears to be a piece adopted hastily as a result of reports that were primitive and without complete information upon the battles in Manchuria.

(a) This howitzer presents numerous disadvantages. It makes considerably heavier the column of the army corps in which it marches. It lengthens the column and is not easily disengaged from it.

(b) It can move but slowly and only over very solid roads and ground; bad roads and, still more so, fields are not possible for it. It has therefore, no mobility.

(c) As is indicated in article 397 of the regulations the heavy artillery will have to accomplish all its firing missions from a single position as near as possible to the enemy. A change of position demands so much time and offers so many difficulties that it is to be avoided. One wonders, therefore, how this artillery will be able to follow the fluctuations of a battle: if the infantry advances appreciably, it will have to change position, consequently losing a great deal of time; if

the infantry withdraws, it risks falling into the hands of the enemy or at least under his fire.

(d) Not being protected by a shield, the heavy howitzer can be silenced by an ordinary French gun of 7.5 cm. which might happen from flank or cross position be able to fire upon it.

(e) It has a ratio of efficiency sensibly smaller than the light howitzer against all objectives of field warfare, for the reason that having a projectile two times as heavy for an equal amount of destructive matter it has two times less a chance of striking the target, and one of its projectiles does not produce the effect of two projectiles of the light howitzer.

(f) Finally, the heavy howitzer does not fire shrapnel, it depends for results upon accurately aimed fire.

MATERIAL AND MORAL EFFECT OF ARTILLERY.

In order to discuss battle field tactics reckoning must be made of the material and of the moral effects of artillery fire.

The first news that arrived from the war of Manchuria, where for the first time two nations armed with modern artillery were engaged in combat, appeared to give to the cannon a considerable preponderance in battles. The big voice of the artillery made itself heard afar; it dominated all other noises. The effects of the projectiles with explosive powder, especially those of the heavy artillery, produced emotional effects that impressed the witnesses of the struggle. The soldiers who had been in the furnace of combat told of the profound impression made upon them by those projectiles, and their imagination attributed terrific

effects to them. People talked with awe of the chimose projectiles of the Japanese howitzers, which they said had obtained the victory by laying in ruins from top to bottom the defenses piled up by the Russians at Liao-Yan, Mukden, etc.

Under the impression of these reports it was imagined that the importance of the artillery was to increase considerably and that it was necessary to provide modern armies with a considerable number of guns largely composed of these howitzers with the formidable projectiles, which were producing such effects in Manchuria.

Thus was formed the point of departure for discussions which led to the creation of the heavy howitzers which we have just been discussing.

Later, when everybody was calmer and the results of the battles in Manchuria could be verified, we had to yield to the evidence. The artillery had not produced any greater effect in this war than in preceding wars, rather the contrary. The most reliable statistics prove that the percentage of losses attributable to artillery often remained at seven or eight per cent. and never surpassed fifteen per cent.

The many accounts of officers worthy of credit, participants in these battles, generally agree as to the very variable effects of the artillery depending upon circumstances.

Artillery struggling against artillery in its front produced but little material effect, and yet neither the Russians nor the Japanese had shields on their guns; they even fought sometimes without having been able to create shelter for themselves.

We read in a letter of a Japanese officer the following account of an artillery combat:

“The 1st of August in the army of General Kuroki our batteries (two) had hardly had the time to entrench and to open fire when they were attacked by the hostile artillery. The Russians fired remarkably well and their fire was perfectly regulated; our batteries were covered with projectiles. I took photographic proofs of the bursting of ten or twelve shrapnel falling one after the other. In a short time our batteries were silenced.

“I thought it was for good; but soon they recommenced their fire and developed it to its maximum intensity. That kept up till 8 o'clock in the evening. When I saw that the fire of the artillery had at last ceased, I went to those two batteries convinced that I should find their personnel sorely afflicted and their matériel badly demolished.

“The two batteries had in all one officer and four men killed, one officer and thirteen men wounded; one piece had a broken wheel.”

General Hamilton relates that at the battle of Liao-Yan, he saw the artillery of the Japanese Guard concentrate its fire on an uncovered Russian battery—under that fire he saw the Russians take the exposed guns, by hand, in rear of the crest behind the trenches.

General Samsonov relates that on October 12th at Peu-Si-Hon, one of his batteries, which was firing from behind intrenchments, stood the well aimed fire from the Japanese artillery during a whole morning without experiencing any loss. The men were able to withdraw it by hand under a violent fire.

Other very numerous examples prove that the fire of artillery against artillery that is only slightly visible

and is entrenched is materially almost negligible; the fire against artillery uncovered and not entrenched forces it rapidly to cease firing and causes it sometimes serious losses of matériel.

A battery in movement which falls under the fire of the adversary is destroyed or at least very rapidly placed out of action. These assertions are based on what took place in Manchuria.

Among other accounts we borrow from the official account of the engagement of Dachi-Ichao (July 24, 1904) by Lieut. Col. Pacht-Cheuko, the following observations:

The Russian batteries, very inferior in number, managed to struggle advantageously against the Japanese batteries. This was because:

1. They were completely defiladed from view, 500 meters in rear of a crest which formed a covering mass 24 meters high and which therefore absolutely hid the flashes of their guns.
2. During the day not a movement of carriages disclosed their presence to the hostile observers.
3. The pieces were separated by intervals which rendered them less vulnerable.

While these batteries hardly suffered from the fire of the Japanese artillery, the latter was sorely afflicted while seeking to move over exposed ground. "Twice," says the Lieutenant Colonel, "the Japanese batteries tried to change position to the west of San-Stsia-Tsi; their limbers came out from behind the wood near the village; but both times they received our fire whose effect was terrific; the horses ran away and the limbers disappeared far to the rear. These two batteries were

soon unable to operate; the other Japanese batteries did not thereafter try to move forward."

In regard to what concerns results of artillery fire against infantry, the observations made in Manchuria confirm absolutely the French opinions. Shrapnel from the field guns can hardly do anything against infantry sheltered in trenches.

The Germans however are seeking to obtain better results with the shrapnel from their light howitzers. They claim to be able, by means of carefully planning the bursting of their shells, to reach with a portion of the fragments the objectives placed in trenches. They succeed in this on the target range, but on the field of battle the results would be more than uncertain; successful accomplishment demands such exact ranging that it would cost them a prohibitive number of projectiles.

Shrapnel fire is much superior to the curved fire of the howitzers, even with the big lyddite projectiles, against infantry that is not sheltered or that exposes itself behind fortifications.

In the beginning of the Manchurian war shrapnel was spoken of as having failed; but a return to the truth has been compelled. Shrapnel is the projectile par excellence against infantry. It has produced terrific effects upon troops in dense formations, and it is as effective as possible against lines of unprotected skirmishers.

Finally, with regard to the effects of bursting shells small or big, we must agree with the opinion of the Russian officer, a witness of many battles, who says: "The bursting shells produce a mighty spectacle to the eye and a great moral impression; they dig vast funnels

and when they burst throw up huge columns of dirt and smoke. *But their real effect is entirely insignificant.*

“In flat open country their effect is especially moral; their radius of destructive action is very small: 25 to 30 meters for the missles of the light howitzers.

“*Within closed places* the effects are terrible. Houses are untenable and are quickly destroyed. If a shell bursts exactly in a shelter or over a trench its ravaging effect is complete. In timber the moral effect is increased ten fold; the material effect is augmented by that produced by the branches being flung in every direction.”

MORAL EFFECT.

The *moral effect* of the artillery is one of its most important factors, which it is essential to know how to make use of; the object of a battle is not to kill a vast number of the enemy but to produce fear in the adversary, to make him believe in his own inferiority and to make him decide upon flight.

The artillery projectile because of the noise it makes in bursting, the smoke it spreads, the dust it raises, finally because of the wounds, frequently gaping and horrible, which it produces, has a considerable moral effect.

When it is recommended to use zone firing it is not merely to profit by an advantageous opportunity but also to produce a sudden intense effect; an effect often more moral than material from which it is well to know how to profit, from a tactical point of view.

The bursting shell, of which we have shown the inferiority in open country from the view point of wounds produced, acquires an incontestable superiority from the moral point of view. The shells, particularly those

of large caliber, are absolutely terrifying to those not accustomed to them.

It was the great moral effects that impressed the witnesses of the Manchurian war when, at the beginning, they believed that the explosive shell was to replace shrapnel, but the Russians became accustomed to the theatrical effect of the explosive projectile upon ascertaining its slight material effect.

“Action that is solely moral is soon spent,” says — Ardant du Picq.

According to their regulations the Germans must use their howitzers from the commencement of the battle. From the moral point of view that seems to be a defect. The nerves of the adversaries may become accustomed to these bugbears which at the time of the final onset will therefore not produce the desired effect.

It would seem wise not to consume this moral action too quickly, and therefore to use the big howitzers only to produce a great effect at a given moment at a given point. That is the French doctrine for the use of its 15.5 R.; we believe it is the correct one.

But on the other hand it is certain that upon our young soldiers with the impressionable French temperament the effects of the German howitzers may be disastrous in the first large battle. Our young soldiers may not have time to get used to them. Now, it is quite probable that the first large battles may decide the war.

The Manchurian war permitted ascertaining facts worthy of notice; not only did the loud noise and the terrible visual effects of these explosive shells scare the opponent and depress his morale, but they had the further result of stimulating in an astounding manner the morals of the young soldiers whom they were supporting.

When the Japanese perceived the Russian trenches, before which they had been using up their troops for so many hours, bombarded in a terrifying manner by the combination of the field artillery and the heavy artillery; when they saw before them thick clouds of smoke and dust interspersed by the flashes of the shells which were bursting above the trenches; when they heard the thunder of these shells covering the whole field of battle, their enthusiasm no longer knew any bounds; they dashed forward to death or glory with savage fury.

CHAPTER III.

CAVALRY.

The regulations on field service and those of April 3, 1909, for the German cavalry fix the province of that arm and its employment in war. Let us rapidly examine the principal points of the cavalry regulations with regard to what especially concerns its operation and action beyond its co-operation with the infantry.

The Germans rely a great deal upon the cavalry to get information; hence they want it strong, well armed, capable of piercing the protecting screens.

We shall see later on, upon studying the preliminaries of the battle, the method of employment which they lay down for reconnaissance and security.

CAVALRY ACTION.

The cavalry division was formerly the strongest cavalry unit placed under a single commander. The new regulations contemplate the formation of a great corps of cavalry formed of several divisions. "The assembling of several divisions into cavalry corps may be necessary as well during the operations as upon the field of battle." (C. R.) We shall return later to this question.

Each division marches as a rule upon one road.

As soon as the proximity of the enemy makes it necessary, there is taken up a formation in column of platoons or in double column to reduce the depth of the division; this is the Entfaltung (development); then it passes to the deployed formation of line of columns: this is the Entwickelung; finally it forms into line before the impact; this is the Aufmarsch.

As soon as the division commander wishes to take a semi-deployed formation—Entfaltung or Entwickelung—he gives his orders to the brigade commanders. “There is no *prescribed formation* for the division; the commanding general breaks up the column into march units according to the object to be attained.” (C.R.213.)

This prescription marks a profound difference between the old and the new regulations. There are no normal formations, the general does as he thinks best and breaks up his division in the manner he deems expedient. Complete initiative is left to the brigade commanders; they march abreast or in echelons according to the orders received, but they choose their route and their formations, keeping connection with the base fraction. They look out for their own flank protection. “As soon as a division commander has decided to attack, he indicates their missions to the artillery and the machine guns; he gives the order to attack to the brigades, indicating if necessary the direction to the base brigade, and designates a reserve.” (C. R. 223.)

With respect to everything that concerns the action of cavalry against cavalry, the precepts of the new regulations do not essentially differ from the French. After experiments, our neighbors have adopted almost the combat method of the French cavalry—action in compact line of regiments with supports in rear and echelons on the side.* The regulations no longer prescribe the deployment of nearly all the forces on a single line.

“It is essential to engage at the beginning as many

*It should be remembered that this discussion refers to large bodies; the echelons may be units of considerable size moving at an appreciable distance to the rear or to the front.—Translator.

troops as are needed, but no more. No *escadron* must fall opposite a gap in the enemy's line." (C. R. 430.)

The formation in echelons is becoming the rule in France. "The suppleness of the order in echelons permits, in proportion as the situation is cleared up, of grouping the forces in the most favorable manner for passing to the attack." (C. R. 425.) It is the application of the precepts laid down by Moltke in 1869 and lost sight of by the Germans: "To deploy all one's forces in the first line is bad, even for small bodies. The large units will rarely find the necessary ground. The success of cavalry action will often depend upon the dispositions that will have been taken to protect its own flanks and to surprise those of the enemy's."

The echeloning can be done to the rear to protect the flanks; but when that is possible it will be preferable to make it to the front. Let us hear what General von Bernhardi, the great cavalry leader says on the subject of echelons:

"There is generally understood by the order in echelons a disposition with the wings refused to the rear and it is believed that it is only by such echeloning that the protection of the flanks can be assured. In my opinion, there are other ways of operating. Against an enveloping attack of cavalry the refused echelons offer indeed the best protection; but, against a threatened hostile fire upon the wing, the result is in no way attained. Against an attack by fire action or in all cases if on covered ground, it is to the front that the echelon should be thrown to clear things up in the direction of danger.

"The use of defensive echelons moreover does not correspond in any way to the offensive spirit that cavalry ought to have. The best protection of the flanks

is assured by attacking the hostile flank, and this attack, like all enveloping attacks, will be better prepared by echeloning to the front one wing or both."

The regulations do not seem to be so assertive as General von Bernhardi.

"The echeloning will vary with the end to be attained and with the situation * * *. An echeloning to the front may result from the situation of the advance guard." (425.)

This echeloning to the front, to attack the hostile flank, is quite in conformity with German tactical ideas; we find it again in the infantry action. It can not be successful in cavalry action except upon the condition that the enemy be deceived and does not notice the movement; otherwise one would be playing a game that seems very dangerous.

It is admitted however that one will sometimes be able to go to the combat according to the old principles. "If the situation of the enemy is sufficiently clear, the chief of the cavalry can at the beginning arrange his forces abreast and direct them upon the points upon which he has determined to make the attack" (426.)

The regulations recommend always supporting the flanks either upon an obstacle, or artillery or machine guns, or finally upon dismounted troops. It expressly recommends making use of dismounted action to support the cavalry combat. "The fire of a well sheltered fraction on foot may have a decisive effect."

These prescriptions of the new regulations, upon the majority of points, accord remarkably with our cavalry regulations. They appear moreover to be absolutely justified.

We shall not study farther the question of cavalry

combat, which is outside the scope imposed upon this work. We shall pause only over two rôles that are new, or at least organized in a new way, with which the regulations have vested the cavalry arm: the rôle of the *defensive screen*, called *Verchleierung*, a word recently introduced into the field service, and the rôle of mounted infantry which takes more and more importance in German tactical procedure.

VERCHLEIERUNG. (Cavalry Screen.)

This new military expression, introduced into the field service regulations, does not indicate something absolutely new. The *Verchleierung* is the curtain or screen which is to conceal a movement, an assembly, or a position. The cavalry is to form this screen; but to it is attached often some detachments of infantry, cyclists and machine guns. The *Verchleierung* can be offensive or defensive.

Offensive to mask a movement: “On all the roads are pushed forward strong cavalry patrols as well as cyclists detachments, having for mission to attack and to drive back the hostile patrols” (F. S. R. 195): and the movement or position is surrounded on every dangerous side by a strong cavalry screen.

Defensive: The *Verchleierung* is “more efficacious if there can be utilized a natural obstacle of the terrain leaving available for the hostile reconnaissance only a small number of roads.” “These roads are then obstructed by barricades which the cavalry defends with its fire; there are attached to it if possible some machine guns sections.

“In rear are held cavalry detachments of greater strength. * * * Scouting detachments are pushed

in advance." (F. S. R. 196.) The infantry aids in forming this curtain, depending upon circumstances.

The employment of the Verchleierung will, in many cases, offer many advantages. Every time that a force wishes to change position without being seen, it will employ a system of Verchleierung, more or less complete. When it is desired to create a zone into which the enemy's reconnaisance must not penetrate, there will be established a close system of Verchleierung. It is prescribed that hostile reconnoitering parties that have succeeded in penetrating it shall be pursued to the uttermost. It is of course of the greatest importance that they do not carry away any information for which there is the greatest reason for secrecy.

Accurately speaking, this defensive curtain which the Germans designate by a new term is in no way absolutely new, but the word expresses an ensemble of dispositions which it would be useless to recall when giving orders. The word will be sufficient; everybody will understand it.

These screens may be very useful before a timid enemy and may succeed in stopping detachments or advance guards which have neither spirit in their movements nor notions of what there may be in front of them.

As we shall see, a German advance guard has for its duty to be prudent; a system of Verchleierung very solidly established might be able to intimidate it or perhaps to deceive it. As to the French advance guards, which are distinctly offensive, they will easily pierce the curtain and certainly will not be stopped.

ACTION ON FOOT.

The considerable *importance* which the regulations give to dismounted cavalry action is also one of the new features of these regulations. The German cavalry must be able to transform itself into mounted infantry and consequently to fight on foot absolutely like infantry. "Mounted action is the principal method of fighting for cavalry," say the regulations (Art. 389); but they add, "The cavalry is also, thanks to its rifle, able to fight on foot. It is in a position, especially if it is supported by artillery and by machine guns, to resist detachments of all arms or to cause them to suffer considerable losses by surprising them with fire. It does not fear to attack wherever the situation requires it to do so.

"The cavalry will often find itself in the position of being forced to open a road for itself by attacking on foot in order to be able to continue to fulfill its mission."

The German trooper must therefore know how to fight on foot, not only to defend himself but also to attack.

"We shall have," says General von Bernhardi, "in the future to take the offensive into consideration in dismounted action, and even a decisive offensive which means to attain its end, whatever happens, by engaging strong forces."

Article 465 of the regulations prescribes distinctly that this offensive shall be pushed through to the end. The paragraph of the Infantry Regulations is repeated:

"The attack has for its object to carry forward the line of fire up to the enemy, by advancing, if necessary, by *very* short distances. It is *completed* by the *assault*, which seals the defeat of the enemy."

The regulations recommend that dismounted action be engaged in "only after mature reflection," but once decided upon to engage in it with all one's forces and *to the limit*.

So the Germans consider that their cavalry divisions, upon certain occasions of which we shall speak later, will be led into fighting on foot with all their forces; into fighting which will have to be pushed to a decision and include the assault.

In order to give every possible advantage to their cavalry and to deceive the enemy, the Germans have just taken various measures. They have given their trooper a uniform quite similar* to that of the infantry so that the enemy in a fight will not be able to determine whether he is fighting with cavalry or infantry.† This is important from the moral point of view.

They have likewise just transformed the cavalry carbine so that the range of this weapon, which was 1200 meters, attains 2000 meters. The cavalrymen use the same cartridge as the infantrymen and have like them a bayonet.

The cavalry divisions have been supplied with guns and machine guns. Being well equipped with tools these divisions can fulfill all the missions with which they are charged and are fitted for all kinds of struggles.

The rules for the combat on foot of the cavalry

*The order from the Emperor's office of February 23, 1910, has also just given the gray blouse to the cuirassiers and to the mounted chasseurs, in place of the Koller (blouse of special form.)

†This measure would be eminently wise for France. All our uniforms are dissimilar. The enemy immediately recognizes in a combat whether he has to deal with cavalry. How can a hussar or a dragoon be mistaken, even at 1,000 meters, for an infantryman?

are the same as those for infantry combat. It is more particularly recommended that the order in *depth* be used so as to avoid mixing units—something more inconvenient for cavalry than for infantry. The return to the horses can not indeed be made in good order unless there has been no mixing of units.

This offensive to the uttermost for cavalry dismounted seems to us very dangerous.

General von Kleist said: "Reflect once before attacking when mounted; reflect three time before attacking on foot."

One will do well to reflect a long time.

It seems to me that very rarely will there be occasion for throwing cavalry divisions on foot to launch them into an offensive action to be pushed to the assault. Cavalry divisions are precious instruments in any army. How can one conceive an occasion where the hopes of success on foot is worth the risk of their loss. A division of cavalry can hardly put more than 1000 rifles in line, on foot it is equal only to a poor battalion*; while mounted it is not replaceable. That cavalry shall fight on foot on the defensive, on numerous occasions, is becoming more and more necessary, and the opportunities for this kind of action are more and more frequent. But it still appears imprudent to us, to engage a whole division of cavalry, or even a large party, in a defensive action on foot. As to throwing a division of cavalry into an attack on foot against a position defended by infantry in sufficient strength—that appears to us incomparable presumption. Can one imagine a German cavalry division, *i. e.*, equal in value to a thousand com-

*It is to be remembered that this refers to European organization.—Translator.

batants—not very expert be it remembered—throwing itself on foot into an assault on a position of our frontier defended by one of our covering detachments? That is however what would happen most certainly in case the spirit of the regulations is adopted by the spirit of the responsible cavalry leaders.

To believe that from cavalrymen can be obtained good foot soldiers to push an attack to a decision against real infantry is a Utopian dream that must be left to the Germans.

The cavalryman will never leave his horse otherwise than regretfully; he will be thinking only of getting back to him. He will never be able to sustain a very long combat; he will not have enough ammunition, his supply is restricted. If he approaches very near the enemy he will never be able to get back on his horse except after victory; a retreat would be a defeat. Finally, for cavalry dismounted the horses become the danger point. A band of hostile cavalry or infantry that could get near them would be sufficient to carry them away or to destroy them; that would mean disaster.

The old German regulations said: "Cavalry is not in a position to carry on a dismounted combat of long duration; * * * in most cases dismounted action will be a defensive action; it will not fight thus on the offensive except when its mission can not be accomplished otherwise." That regulation was wise. Why have the Germans departed from these reasonable doctrines to adopt in certain circumstances the offensive action dismounted on the largest scale?

We believe that that has been brought about in a large measure, by the examples which they found in

the Russo-Japanese war. The tactical lessons of that war seem to have made a strong impression in Germany (we shall verify it under various circumstances in the course of this book); but it does not seem that the Germans have drawn from these lessons conclusions that are entirely exact.

The Russian cavalry formed especially of Cossacks from the Transbaikalia, fought very often, it is true, on foot; it rendered thus some great service but it acted very little like cavalry, why?

General Mischtschenko tells us why:

"The Transbaikalian Cossacks are mostly hunters by profession, remarkably good shots and wood craftsmen; *but they are not cavalrymen*; the officer himself is not a true cavalryman * * *. Moreover, their horses are small, not gaited, though they are robust and possess good endurance. * * * These horses march well in mountains but are heavy and untractable."

With these Cossacks the Russians had an excellent mounted infantry but not cavalry. General Mischtschenko knew how to use this so-called cavalry according to its capabilities, *i. e.*, by making it fight almost constantly on foot.

Besides these motives proceeding from the conclusions drawn from the Russo-Japanese war, certain principles have led the Germans to their doctrine of the attack dismounted; they hold in effect as a principle that the cavalry should be in condition to pierce the screens of the infantry and be able by its offensive action to rend the veils covering the collecting of troops or hostile columns.

The introduction into our military organization of bicycle battalions has also certainly contributed to the

birth of the prescriptions of the German regulations; our neighbors did not want their cavalry divisions to be stopped by our bicycle infantry; they are teaching it to attack it and to hammer it.

The new regulations of April 3, 1909, the application of which was tried for the first time in the last grand maneuvers (1909), did not appear to have had a very happy influence.

The cavalry presented a poor appearance. It did not succeed in getting information for, or in enlightening properly its corps. Its service of security was insufficient to such a degree that on the 14th of September a division of cavalry was surprised in its cantonments by a detachment of infantry.

But it was in action that the German cavalry seems to have been the weakest. It forgot that it is especially through motion that it is redoubtable and that its mode of action in combat should be the powerful moral effect obtained by mass, by swiftness, and by the effect of surprise.

Dismounted action, so much extolled by the regulations, had become the rule of the German cavalry.

As soon as a force of cavalry met the enemy its first care was to throw forward a screen of dismounted cavalrymen, then to maneuver behind it, not like cavalry but like mounted infantry.

The cavalry in this maneuver forgot its role. It never sought to annihilate the hostile cavalry in order to assure itself the liberty of maneuvering. The two opposing cavalry forces although opposite each other from the evening of the 15th of September did not seek out each other with the desire to fight. On September 15th the two cavalry forces mutually surprised each

other. They were not well informed as to each other and had not prepared for battle; so the encounter was nothing but a confused series of surprises of regiments or *escadrons*.* it degenerated into an inextricable *mélange* of dismounted action.

The red force, which was much the weaker in numbers, was declared beaten and fell back. The Blue cavalry did not profit by its partial success, it thereafter avoided the Red cavalry and fulfilled none of the very important rôles with which it might have been vested. It hung on the flank of the Blue army without serving any great purpose.

Its superiority had offered it the opportunity to play a most important rôle in the delicate mission attributed to the general commanding the force.

Although no stable conclusions can be drawn from a single experiment, it appears nevertheless that the result of the new regulations has been to change completely the cavalry spirit.

The great anxiety of the German cavalry corps appears to be at present to protect itself by cavalry-men dismounted, and to use fire action, artillery, machine guns, carbines.

If this result is attained we can only congratulate ourselves over it.

*An *escadron* corresponds somewhat to our troop; it is commanded by a captain, but has more sabers (150).—Translator.

PART II.

THE BATTLE.

Preliminary remarks on the subject of the prescriptions relating to the combat in the new regulations.

When one studies the prescriptions of the new German regulations he is struck by a certain number of points upon which the regulations lay particular stress.

These points mark the exact characteristics of the spirit in which the regulations were conceived. They are particularly conspicuous in the three regulations (Infantry, Cavalry, Artillery), and they deserve special mention.

There are four of these characteristics:

- 1. The spirit of the offensive.
- 2. The development of initiative.
- 3. The necessity of communications.
- 4. The united attack.

1. THE SPIRIT OF THE OFFENSIVE.

The spirit of the offensive is the first principle of the new regulations. It is found on every page. More than ever do the Germans want to inculcate it deeply into all the members of the army, into the brains of the leaders as well as into the temperament of the soldiers.

No army, other than the French and the German armies, has in its regulations such clear-cut principles for the offensive.

Heading the Cavalry Regulations is found the old Frederickan precept relative to the initiative in attacking: "No *escadron* should wait till it is attacked; it should always attack first."

The Infantry Regulations, in the instructions for the combat, are just as much for the offensive.

"The infantry should cultivate its natural propensity for the offensive. All its actions must be dominated by this one thought: *Forward, upon the enemy cost what it may!* This rôle requires of the force a high moral standard. One of the first duties of the officer is to develop this standard." (I. R. 264-265.)

The battle must be offensive. When at certain points defensive combat must be resorted to, this defensive action should always be combined with another offensive action.

2. THE DEVELOPMENT OF INITIATIVE.

The new regulations prescribe the leaving of initiative to all grades of military rank. The "first quality of a leader should be a liking for responsibility," say the Artillery Regulations. The Infantry Regulations insist: "The maneuvers in time of peace should tend to develop the initiative of the leaders and of all the participants, including the rifleman." (I. R. 251.)

"For the combat there are required leaders who are accustomed to thinking and who are trained in initiative, and riflemen who know how to act by themselves." (I. R.)

"In each case the commander must make decisions that meet the situation and not change them thereafter without strong reasons." It is forbidden to the higher commanders to meddle with details, "the subordi-

nate leaders should have the choice of means." (I. R. 272.)

"All leaders should always be imbued with the principle that inaction and negligence are more serious faults than an error in the choice of means." (I. R. 304.)

The Cavalry Regulations sound the same note: "Initiative is the first virtue of a leader." (C. R. 407.) "The leader," adds this paragraph, "must never wait for orders and should seize responsibility with joy. In doubtful cases, let him act upon this principle."—"The boldest resolution is oftenest the best." (C. R. 399.)

As can be seen, the regulations recommend the greatest initiative, but on the condition however, that it does not degenerate into license. "The initiative is the source of the great successes in war," say the Infantry Regulations; "but it will bear fruit only if kept within proper limits."

In order to leave to everyone his proper share of initiative, to allow everyone the privilege of acting according to the circumstances, according to his judgment, the regulations carefully avoid all ironclad rules and prescribe independence and responsibility for the subordinate in the choice of means.

"The subject of combat *does not admit of exact rules.*"

It is very remarkable that in this German army which is so given to order, regularity and method, we find it recommended that initiative and independence be left to all grades of the military organization.

3. THE NECESSITY OF COMMUNICATION.

We have already had occasion to call attention to the care which the Germans bestow upon their lines of information not only in the matter of communication between the different grades of rank but also between the different arms. We shall see hereafter, in the discussion of the service of reconnaissance, with what care they establish the lines of information of that service.

In all three arms the different echelons of command are formally enjoined to keep in close touch with one another.

“All leaders must direct their attention to * * * the lines of information.” (I. R. 283.)

“The telephone is usefully employed to keep the different echelons in touch with one another.” (I. R. 281.)

Communication among the arms is prescribed in the most explicit manner: “the artillery especially must keep in constant and uninterrupted communication with the arm that it has to support.” “The artillery must always keep in communication with the portion of the line of battle that has been assigned to it.” (A. R. 376.)

“Infantry always fights in co-operation with the other arms; its action cannot be separated from that of the artillery.”

The new Artillery Regulations no longer consider the artillery duel as the prelude of the battle, they assert that the artillery owes all its support to the infantry and fights only to open the road for it.

4. THE UNITED ATTACK.

The Germans do not concede that combat should be accepted unless all the means of action have been gathered together. When a force, separated from its main body, encounters the enemy it attacks only in case it is obviously superior; otherwise it stops, entrenches, even falls back if necessary, and awaits the arrival of the main body. When, then, a force having an offensive mission finds itself facing the enemy, it is first to concentrate then to advance to the attack *with all its forces acting in concert*. It is necessary at the very start to gain the superiority over the enemy and crush him by the weight of numbers.

“Cavalry must operate *in large masses*.” (C. R. 393.)

“Artillery should enter into action almost like one blow, *in masses*.” (A. R.)

“The infantry of the main body should simultaneously make a united attack.” (I. R. 359.)

Everywhere we find this idea of a powerful attack, to be made brutally with all available forces.

* * *

The German regulations lay down very different rules depending upon whether they are treating of the battle from the point of view of the offensive or from the point of view of the defensive.

In them are examined successively the different forms of the offensive, as it is manifested in a meeting engagement; against an enemy in a defensive position; against an enemy in a fortified position.

We shall study particularly the German ideas concerning meeting engagements which will be the usual type in future struggles. Thereafter we shall study the other forms of combat, considering only the peculiarities that they offer.

CHAPTER IV.

THE OFFENSIVE.

Reconnaissance (Information.)

“The service of reconnaissance has for its object,” say the Field Service Regulations, “to find the enemy, to determine his position and his strength.”

The Germans rely absolutely upon their secret service and their service of cavalry reconnaissance for all necessary general information concerning the enemy. They expect to obtain by these two means sufficient data to engage intelligently in combat.

They do not wait moreover to get precise and detailed information, which can only be obtained by fighting. As soon as their two services of information have indicated the general position of the hostile centers, as soon as they believe themselves sufficiently oriented not to engage wrongly, they attack and aspire, by a ferocious offensive, to impose their will and their strength without needing to see very thoroughly into the dispositions of the adversary.

They have therefore very carefully organized their two means of investigation. Naturally their regulations and their military writings speak only of the service of reconnaissance.

ATTACKING THE ADVERSE CAVALRY.

As a rule, the service of reconnaissance is performed only by cavalry, but to be able to accomplish it easily it must not be hindered by the adverse cavalry. To perform its own duty of exploration and to prevent

the hostile cavalry from performing its duty are the first two missions of the cavalry.]

ATTACKING THE HOSTILE CAVALRY.

Therefore, the regulations say: "It is of the highest importance to sweep away as quickly as possible the opposing cavalry and to establish an incontestable superiority over it. All detachments and patrols should consequently attack the hostile cavalry wherever it is seen. In this way the service of information is hastened and the service of security considerably facilitated."

Hence, to put it clearly --first attack the hostile cavalry, defeat it, then fall upon hostile cavalrymen everywhere!

The Germans do not conceal the fact that they rely absolutely upon their numerical superiority in cavalry rapidly to defeat ours (*).

Their principle of seeking from the very outset the main body of hostile cavalry in order to defeat it, is excellent. The offensive from the very beginning is what they extol; we can but approve it.

CAVALRY PATROLS.

The service of reconnaissance is carried out principally by patrols; patrols operating at a distance, and patrols operating near to their main body. The German instructions for these patrols are similar to those of the French regulations; we shall not dwell upon them. Let us observe only that their regulations pre-

*The Germans mobilize twelve divisions of cavalry; France, eight. The Germans have, therefore, a crushing superiority in numbers; they claim also to have technical superiority.

scribe a substitute for the patrol leader, an extremely wise measure which we would do well to imitate in France.

When the patrols are pushed out too far to be able easily to communicate with the main body of the cavalry, supporting *escadrons* are sent out, serving as rallying centers and as centers for transmitting information. These *escadrons* are separated by not more than 15 or 20 kilometers.

The important question of the rapid transmission of information has been studied. The regulations give only general instructions; but in practice the Germans make intelligent use of all means that science has put in their hands.

The patrols send their reports to the *escadrons* by courier; this is the only possible means, but at the same time the most uncertain means of transmission. Not only must the courier escape the enemy, but he must find the *escadron*. An unintelligent trooper, alone and without a map, has a great deal of trouble in finding his way over unfamiliar ground.

The *escadron* can not remain stationary; it leaves transmitting stations, previously designated, at fixed points.

From these stations run telephone lines or, failing these, lines of automobilists or cyclists which converge toward a central point—the central information station of the independent cavalry. At this point there is an officer who gathers together all the information and co-ordinates it. He communicates it by automobiles or couriers to the general commanding the cavalry, who is often some distance away.

As to the communication with the general com-

manding the army, it would take too long if it had to be effected by the same means. That general is indeed two or three days' march in rear. The officer at the information center must be provided with wireless equipment; he communicates the information by wireless.

The system of communication thus organized seems perfect and is worth imitating.

The service of reconnaissance is kept up until the two opposing armies come in contact; the cavalry divisions then withdraw to the flanks, and the service of information is maintained by the divisional cavalry. To this end, "the two bodies of divisional cavalry of an army corps may be advantageously united, leaving an *escadron* to each division."

THE LARGE INDEPENDENT CAVALRY CORPS.

It is thus that has been organized, with its visual antenna, the network of the service of reconnaissance.

This system will be able in most cases to give only the apparent outline of the positions or of the lines of march of the enemy. It will always afford the possibility of indicating the location of the hostile front and wings, but rarely will it permit of penetrating far enough to describe the hostile dispositions. Its eyes will be veiled by the enemy's screen. Now it is important to break that screen and see behind it; and this is one of the essential missions of the cavalry divisions. The regulations indicate that "in order to accomplish this mission, divisions may be united into a single command."

From everything that we know, it is certain that at the beginning of war there will be formed in Ger-

many large cavalry corps composed of three or four divisions, and perhaps more; each of these divisions will be armed with twelve machine guns and with twelve field pieces.

These large corps will throw out their network of exploration and seek the enemy's cavalry with a view to defeat it and to put it out of action. If victorious, they will advance to meet the hostile army with the clearly defined mission of getting in contact with it in order to reconnoiter it.

This victorious cavalry will then have to drive back the mixed corps that the enemy will perhaps have thrown to the front, to pierce the infantry screens, to bore through the outposts, defeat the flank guards, etc. It is for these combats, before which the German cavalry is not to hesitate, that it has been taught, as we have seen, to fight on foot on the offensive and to push the action to a decision.

The Germans believe that their large cavalry corps, well armed with machine guns and field guns, will be able to repulse all the mixed detachments with which the enemy can surround himself, and to push through to the infantry columns and reconnoiter them, harass and delay them.

The role of these corps is to become more and more important; it has been foreseen and anticipated.

"The larger the armies are," writes General von Bernhardi, "the longer is the time required to execute their movements and the more is it essential that the command be oriented in advance with respect to the enemy, if it is to co-ordinate and execute its movements to the best advantage. As a necessary consequence the cavalry must be pushed a great deal farther ahead

in the direction of the enemy. It is clear that its movements can not be made to conform to those of an infantry support if one be assigned to it. Even important cyclist detachments, being more or less restricted to roads, would only imperfectly procure for the cavalry the independence that it needs.

"We shall have, then, in the future to trust to fighting on foot, even to fighting on the defensive and pushing it to a decision whatever happens, even by engaging large forces * * * .

"Already (in the war of 1870-71) has defensive action on foot been found to be the exception * * * . It is inconsistent to want to tie down the cavalry, the offensive arm par excellence, to a defensive attitude at the time when it should make use of its carbines."

Before the large corps of the German cavalry what will be done by an adversary, like the French, very inferior in cavalry strength?

The time when each field army was provided with a single division of independent cavalry acting for its own army, no longer exists. These isolated divisions would be powerless before the most meager screen, and opposed to a combination of German divisions they would get themselves successively destroyed.

Combinations must be opposed by combinations. In cavalry tactics we come back to the true principle: "Concentrate to fight." There will be formed in France, as in Germany, large cavalry corps. It must be observed that these corps can not be enlarged indefinitely; beyond a certain limit they would lose the necessary mobility and suppleness; the difficulties of supply and subsistence would become insurmountable;

one serious repulse might imperil, for the entire campaign, one of the most essential organs of the army.

We claim that it is Utopian to imagine, as some authors have recently done, that in the next war Germany will make a lump of the majority of her cavalry divisions by establishing a corps of eight or ten divisions.

How can one believe that Germany would engage at a single point the greater part of her independent forces of cavalry? Admitting even that such a mass could exist and be satisfactorily commanded, what consequences would ensue if it should fall into a trap, if an order, an unfortunate chance should bring about its destruction?

There is certainly a limit to this concentration of cavalry; we do not presume to fix the limit, but three or four divisions seem to be a large maximum; and further what general is capable of leading such an army and maneuvering it properly on a cavalry battle field?

It can well be presumed that these cavalry corps might undergo some severe lessons in a war, when in time of peace they have never been tested.

THE CAVALRY AND THE CYCLIST CORPS.

In any case in France, though we have a notorious inferiority in cavalry, we must remember that in this arm especially numbers alone do not give victory; leadership and individual bravery are the arbiters of cavalry combat.

In the zone of operations, which we ought to choose, we shall be able to oppose any German cavalry corps with an equivalent corps quite capable of stopping it and of repulsing it. We can also form a corps of three or even four divisions, armed like that of our prospec-

tive adversaries, with field pieces and machine guns and in addition, supported by bodies of cyclists.

In the ruling military spheres, the Germans are not advocates of cyclist corps; they claim that these corps attached to cavalry are an impediment and not an auxiliary; they are afraid that they will injure its mobility and its independence of movement. The new Cavalry Regulations say indeed: "To the supporting detachments (cyclists, infantry in wagons, etc.), belongs principally the duty of strengthening the resistance of the cavalry in localities and of breaking a similar resistance on the part of the enemy." But these detachments seem to be meant for particular cases, as for holding or attacking a given point of great importance (defile, bridge, etc.), and not to accompany the cavalry to support it in time of danger.

In the large maneuvers of 1907 and 1908, cyclist detachments were formed in Germany; little use was made of them; the commanding authority has lost interest in them. These detachments were formed of elements from different corps. In the maneuvers of 1909 no cyclist unit was formed.

Our neighbors have no established cyclist units. They well appreciate cyclists as agents of communication and as messengers; they make extensive use of them, but appear unwilling to use them, except in special cases, to form fighting units.

In France, in spite of great opposition, the cyclist battalions have received appreciation in the large maneuvers and have rendered efficient service. In the localities where we may be called upon to encounter the German army, there is a compact network of roads; the cyclists would be able to get about everywhere and

consequently to follow the cavalry divisions and to support them when necessary. Two or three cyclist battalions operating with the large corps of French cavalry would permit it to cope successfully with a German cavalry force even superior in numbers. The practical study of the employment of these battalions in large cavalry maneuvers would be extremely interesting.

CHAPTER V.

ADVANCE GUARD; MARCHING TO THE ATTACK.

The Advance Guard.

MISSION OF THE ADVANCE GUARD.

The Field Service Regulations define the rôle of the advance guard (Par. 164): "The advance guard's mission is to ensure to the main body an uninterrupted march and to protect the column from unexpected attacks. In case the enemy is encountered, it must provide for the main body the time and the space necessary to deploy for action, taking care not to let itself be drawn into an engagement against the will of the commanding officer." Hence the advance guard in Germany is expected only to protect the main body against surprise and, by its resistance in case of attack, to permit it to deploy.

It is a shield and not an offensive weapon.

The advance guard must not engage in an offensive action except when it foresees certain success. From the information that will have been gathered and from what is developed in the first engagements of the advance guard an approximate estimate of the situation can be made.

"Uncertainty and lack of information are the rule in war. In a war of operations, the two adversaries will often not have their information until after coming in contact." (I. R. 352.)

This paragraph is exactly correct. It is the French theory. It does not seem to be in accord with what

has been said elsewhere as to results to be obtained by the cavalry.

If it can be judged from the first brushes of the advance guard that one has the advantage in deployment and in numbers, one will not hesitate to follow up the first successes by supporting the advance guard with successive arrivals of the troops of the main body. But if one is uncertain it is recommended to remain "in expectation," to wait until all the artillery has been assembled and the main body of the infantry "can make a united attack."

"The leader will then no longer have to subordinate his decisions to new and lengthy reconnaissances. He must reflect that the adversary is in exactly the same predicament as himself." (I. R. 356.)

"The advantage, in a chance engagement (meeting engagement), lies with the one who knows how to make the most quickly his preparations for action, thus obtaining freedom in maneuvering." (A. R. 476.)

If, then, it seems that one is strong enough and is as well prepared for action as his adversary, "it is the general situation that determines whether the offensive must be taken. If the offensive is to be assumed, rapid action is necessary." (I. R. 355.)

If, on the contrary, the enemy seems to be superior or to have the advantage as to deployment, "it is necessary to act with prudence. * * * The leader will avoid becoming engaged before having assembled sufficient forces, for fear of being compelled to fight constantly with inferior forces against a superior enemy.

"It may even be prudent to cause the advance guard to withdraw in order to save it a bloody combat

and to expedite the arrival and the co-operation of the main body." (I. R. 360.)

The Germans seek to hit hard at the very beginning. If the advance guard has the advantage, it is vigorously supported; the artillery is pushed forward, engages without hesitation, then the infantry engages as fast as it comes up.

But if the German advance guard is not certain of gaining the superiority at the outset, it halts, it keeps up a delaying fight until the artillery has been able to come up and the main body of the infantry is near enough to support it. When everything is ready, a heavy fire breaks out suddenly along the whole front and a powerful offensive is unmasked. It is necessary to hit hard, as hard as possible.

Finally, if the advance guard finds itself opposed by forces that are superior or better prepared for a fight, the Germans do not hesitate to withdraw; they will even, if necessary, go so far as to break off the action, notwithstanding their violent prejudices against such a procedure. They fall back in such a way as to lead the enemy to run against the line of the main body, deployed in rear, and ready to enfold him in cross fire and to crush him if possible, by a vigorous counter-offensive.

FORMATION OF THE ADVANCE GUARD.

The German advance guard, according to the regulations, should have a strength equal to from one-third to one-sixth of the total strength.

According to the practice at the last maneuvers, there were assigned to it in each army corps the two regiments of divisional cavalry, leaving one *escadron*

to each division. This has become an habitual disposition. This cavalry fulfills the same rôle as the brigade of cavalry of the French corps; we shall not dwell upon it.

In rear of this cavalry, the advance guard is composed in Germany as it is in France, and is subdivided into the same number of echelons.

The regulations indicate two distances for the echelons of the advance guard proper. The advance party marches at 400 or 500 meters in front of the support, and the support at from 1,000 to 1,500 meters in front of the reserve of the advance guard.

The distance of the main body from the reserve of the advance guard is not indicated, but this distance is generally conceded to be about 3,000 meters.

The sum of the distances gives a space of about five kilometers from the point to the head of the main body. The latter is therefore practically insured against surprise from the artillery of the enemy.

In our opinion, there should be no fear about taking very great distances between the different echelons of the advance guard; the resisting power of the units has been considerably increased by the modern armament in use, the reconnaissance of the enemy now takes a longer time and is more difficult.

THE ADVANCE TO AN ENGAGEMENT. DEPLOYMENT OF COLUMNS.

Paragraph 315 of the German Infantry Regulations says: "When the enemy is approached, dispositions for action are made. They consist in the doubling of the column (forming double column or column of platoons), the *Aufmarsch*; the deployed formation of

line of columns (the *Entfaltung*), and the forming into line before the impact (*Entwickelung*).

We find thus three phases:

(a) Passing from route formation to a compact formation of less depth and greater width, or an assembling if a halt is made;

(b) Passing from the compact marching formation or the assembled formation to an open formation. The march is continued or taken up in small separated columns across country; it is the French "march to an engagement;"

(c) Deployment as skirmishers of the first lines.

"When it can be foreseen that it is necessary to enter immediately into action, the formation into double column (the *Aufmarsch*) is omitted, because it most often involves a loss of time and useless fatigue; one passes directly to the formation of the *Entfaltung*, the march to the engagement." (I. R.)

This last restriction is a wise one; it is indeed not easy to understand what a column on the march can gain by forming itself into a double column, in a wide formation, or by assembling once it is on the march in any column whatever. It always means loss of time and useless fatigue. To begin the march in a dense formation *when it is known that the road to be traversed permits of retaining that formation everywhere*, may be exceedingly useful; thus can be diminished the depth of the column and, consequently, the time necessary for deployment, but to take this formation while on the march or to stop to assemble is almost always a mistake.

The assembling of a column previous to any en-

gagement whatever was for a long time an established principle. Instead of going directly to their places on the battle field, the troops would go and collect in masses. In addition to the disadvantages already pointed out, these assemblies would in these days, in front of modern artillery, be exposed to serious danger. A battery of German howitzers can, at a distance of five or six kilometers, produce very marked material effects and still greater moral effects by unexpected fire upon an assembly that has been observed.

These assemblies are no longer made except in *very open* formation.

There is no reason for them except when the commander does not know just when he will have to engage his forces nor in what direction.

THE IMPORTANCE OF TAKING THE RIGHT DIRECTION.

The Germans consider as highly important the attention devoted to assigning proper directions to the different columns. It is essential, they say indeed, that these columns be started in the right directions. If there are errors in direction considerable delays are caused; there is a risk of throwing some of the troops against empty air, of getting some wedged in, or having gaps produced.

The German method of making an united attack without having collected all needed information, can indeed bring about serious errors as to directions; certain units may strike empty air, others be led away by screening troops in divergent directions.

The rôle frequently assigned in France to an advance guard, to a contact detachment or to a rear guard is precisely that of drawing the enemy in a false dire

tion. The German regulations particularly recommend to the commanders of large units that they start their forces exactly toward the objective selected or designated; but before hand it is essential that the objective shall have been carefully reconnoitered and the direction thoroughly studied.

Indeed, the German Infantry Regulations (Par. 286) say: "The difficulty of getting units engaged in the first line to change direction increases with their size. The direction in which a force is to fight is determined before engaging it. If during the advance it is observed that the direction is faulty, it is rare that more can be done in the case of large bodies than to send new troops forward in the proper direction."

CHAPTER VI.

MEETING ENGAGEMENTS.

The Germans recognize only one form of offensive action; they do not differentiate, like the French, between the preliminary or demonstrative attack and the decisive attack. For them there is but one method of fighting offensively.

PREPARATORY COMBAT.

1. ARTILLERY DEPLOYMENT.

The advance guard deployed over a wide front has for its principal duty the protection of the deployment of the artillery; while fighting, it must occupy as needed the important points of the terrain. (I. R.)

The artillery is pushed forward so as to establish as rapidly as possible "an impenetrable wall * * *".

As soon as it has been decided to give battle, the general commanding the army corps must call up all his artillery, *i. e.*, that of his two divisions. This artillery, during the march to the engagement (the Entfaltung), is to be pushed forward over the main roads while the infantry is coming up over smaller roads or across country. Its arrival at the positions indicated by the corps commander must not be delayed.

If the advance guard has been able to gain the advantage and is found to be acting on the offensive, "the commander of the troops will unhesitatingly throw into action the fractions of the artillery as fast as they come up in order to keep or to make the most

of an advantage won by the advance guard." (A. R. 481.)

But if the advance guard is obliged to observe prudence, believing itself before an opposing force that is larger and better prepared for battle, it is advised to wait; "The commander will then avoid undertaking any serious combat until he has at his disposition enough artillery." (A. R. 482.)

These sentences from the regulations show that battle may be entered into in different ways. "There is no reason for formulating a fixed rule," says General von Rohne. "It is important to have the advance guard strong in artillery because beyond doubt it is called upon to play a very important rôle; it enables the commander-in-chief to overcome many difficulties. It is desirable to maintain under all circumstances the possibility of giving prompt support to the advance guard by the artillery of the main body, and one should not fear to separate from his infantry the artillery of the last division and push it forward in the column." These passages from the work of General von Rohne, the great chief of artillery, thoroughly indicate the German opinion on the rapid deployment of the mass of artillery in rear of the advance guard.

OPENING FIRE.

"One should try to have the artillery of the main body open fire simultaneously." (A. R. 481.)

"It is of the greatest importance to put out of action the opposing artillery before passing to the attack * * * .

"The artillery should endeavor to open fire by surprise, within effective range. For that purpose it

approaches as near as circumstances permit to the hostile position." (A. R. 466.)

The Germans consider that one cannot think of an assault before having, if not destroyed, at least put out of action the hostile artillery, and for that reason it is necessary to get the superiority of fire as soon as possible. The best way is to open fire by surprise at close range.

General von Rohne wisely says:

"The farther away the first position is from the enemy, the sooner will be felt the necessity for changing position. Outside of the loss of time that that will entail, it is likely that there will be much less chance to act by surprise in the new position."

Contrary to the principles taught by the regulations of 1899, the new Infantry Regulations recommend that the batteries wait to open fire until the infantry shall have commenced its movement. "In order to leave the adversary in uncertainty, it is important not to engage the artillery until the infantry is advancing." (A. R. 361.)

The preliminary duel before the infantry combat is no longer recognized in Germany.

"The artillery duel and the infantry attack are not two separate acts of a battle," says further General von Rohne, "it will be necessary henceforth to engage with the hostile artillery during the advance of the infantry. Only the closest co-operation of the two arms permits getting results."

The regulations finally lay down this principle: "As soon as the friendly infantry approaches the zone beaten by the fire of the hostile infantry, the artillery while continuing to fire upon the opposing artillery

must direct the greater part of its fire upon the enemy's infantry in order to facilitate the advance of its own." (A. R. 369.)

That paragraph is very important, for it points out to the German artillery a method of operation different from that to which it has been accustomed. Therefore according to the new regulations, whatever be the condition of the artillery combat the infantry combat takes the first place in importance and the artillery must support its infantry with the major part of its strength. "Notwithstanding that necessity," says General von Rohne, "no fraction of the enemy's artillery must be left unoccupied. The batteries which keep up the artillery duel will have to divide up among themselves the hostile batteries.

"The fire must be so apportioned that no fraction of the opposing line can keep up the action with impunity * * *. The best results may be expected from combined front and flank firing. Even when you haven't numerical superiority, you must try to obtain it temporarily upon certain points, by concentrating the fire." (A. R. 437.)

The Germans expect that from the beginning of the artillery struggle the howitzers will render the most useful service. The light howitzers enter into action at the same time as the field guns, but the heavy artillery will often be late getting into operation; we have seen that there are various precautions to be taken before it engages.

In any case "these howitzers will have to silence all hostile artillery whose position can be determined and then facilitate by the greater part of their fire the advance of their infantry." (H. A. R. 409-10.)

Placed in carefully defiladed positions, the howitzers will be able, as we have already seen, to damage the opposing artillery, provided it be recognizable.

It is nevertheless certain that they will never be able to destroy the adversary's artillery. "It can hardly be expected that the visible artillery can be completely destroyed. Formerly it needed only a few salvos to silence a battery. That can no longer be expected. It is only by fire with percussion shells that such a result can be obtained; on the other hand, the fire of the artillery can greatly decrease the battery's efficiency, interrupt its operation * * *. " (General von Rohne.)

AN EXAMINATION OF THE USE OF ARTILLERY.

On the whole, as soon as a battle is seen to be imminent, the artillery is pushed forward so as to get into action as quickly as possible. This is an excellent principle; it is likewise recommended in the French regulations. Our neighbors apply it with remarkable regularity.

As has been stated, very rare will be the cases when the German advance guard will boldly take the offensive, and, consequently, when the fractions of artillery will be engaged successively according to the order of their arrival or the hazard of circumstances.

Our neighbors, being prudent and methodical, make use of their advance guard as a protecting curtain, behind which they deploy as much artillery as possible. When they believe themselves to be ready to engage all their forces they let loose suddenly and by surprise the whole mechanism of a powerful offensive.

The artillery thus enters into action—"as a bunch." Upon whom? Upon what?

In case of a fight between the Germans and the French, it can be foreseen that the German artillery will have been able to perceive at that time only a few French batteries of the advance guard which will have been on the offensive. These batteries which, it is to be hoped, will have deployed as quickly as the German artillery, will be in positions of observation along the whole front.

If the Germans open fire with all their artillery "in a bunch," the French artillery will immediately have precise information as to the emplacement and as to the strength of the German artillery; all the more so since, as we have stated, the latter will be for the most part masked but not defiladed. We shall then be able to reply to it very advantageously. The batteries of the French advance guard will obviously have to suffer; but if they have been prudent, if they know what to expect, they can be presumed to have taken precautions. Well spaced and defiladed, they will be undoubtedly forced to suspend their fire for some time, making up for it by resuming fire when they shall have the opportunity.

The German method of starting the artillery fight appears to be rather crude; it rests upon mere brute force. It conforms to the German ideas, but the procedure seems somewhat barbarous compared to the French methods which are so perfected and rational.

It is nevertheless true that the sudden unloosening of the fire of the combined artillery will produce a profound impression upon the young French troops;

therefore they should be warned beforehand so as not to be surprised.

The Germans have thoroughly grasped the fact that the infantry combat will become the predominant factor of the struggle; their regulations prescribe devoting the major part of the artillery to the infantry fight. Until the moment for the assault, the remainder of the available guns, with the support of the greater part of the howitzers, is to keep up the artillery duel.

This prescription of the regulations can but be approved.

The importance of the infantry combat is appreciated in the same manner by the French Chicis of Artillery. General Percin, the Inspector General of Artillery says: "On the offensive, it is the battery supporting the infantry that plays the principal rôle, the batteries that oppose the hostile artillery (the counter batteries) are there solely to give the infantry batteries freedom of action. The efficiency of the artillery can therefore be measured by the proportion of the batteries susceptible of giving effective support to the attacks of the infantry. Of what importance is the result of the artillery duel? When the infantry goes, everything goes!"

The Germans recommend (I. R. 331) that some batteries accompany the infantry up to the very shortest ranges. They hardly sanction defiladed positions for the light artillery batteries; they do not authorize, under any circumstances, defilading for the batteries designated to support the infantry; these must fight without cover from half masked positions in order to take advantage of favorable opportunities.

Since it is practically impossible for artillery that is

visible to change its position under fire of the enemy, the result will be that the German artillery designated to support the infantry—and this will mean the greater part of their field artillery—will have to go in battery at the beginning in a definite position from which it will not be able to budge.

This uncovered condition of the artillery, before the enemy's batteries are dominated or at least partly put out of action, appears to us to be terribly dangerous, especially facing a well defiladed artillery that is vigilant and active like that of the French.

At the large maneuvers of 1909 the French witnesses were particularly struck by the imprudence of the German batteries.

2. INFANTRY DEPLOYMENT.

The deployment of troops is made by our neighbors almost as in France; there is the same preoccupation about getting under cover, the same care in preserving the proper direction.

There is, however, a characteristic difference. Whereas the French regulations accord a preponderant influence to the utilization of the ground, the Germans pitilessly subordinate the question of the utilization of the ground to that of maintaining the direction.

It is the duty of each unit to utilize to the best advantage accidents of the ground, but it is not allowed to encroach upon the neighboring zone; it will have to, without hesitation, if it has at its disposition only open ground, engage boldly thereupon and keep up the fight on it to the end.

Whereas in France *an objective* is indicated to the leader of a unit, and he is left free to use the ground to the best possible advantage, by inclining more or less to one direction or the other; by sharing passages through which will slip several units having contiguous but different objectives; by closing up behind certain shelters which may serve as protection to various units,—in Germany there is assigned to each unit a *zone* from which it has not the right to stray. The Germans fear the crowding and mixing of units in sheltered passages. Their well ordered and methodical minds dread disorder and confusion above everything else; they trace out absolute lines of demarcation between the zones for the advance of the different units. They remember the extraordinary obstruction that took place in the ravine *de la Mance* on August 18th, 1870; the memory of this famous episode, which might have been so disastrous for them, has certainly had an influence upon the prescriptions of the regulations. Many able German minds do not agree as to this point with the regulations. In 1898 General von Schlichting wrote: "It must be laid down as a fact that open level surfaces, beaten by the enemy's fire, are henceforth impossible to skirmish lines and to their supports, whatever may be the formations adopted."

As a result of the prescriptions of the regulations, the German lines are perfectly seen during their advance even under the fire of the enemy. That could be observed at their last large maneuvers.

The gaps in the battle field, which sometimes struck the observers of the Russo-Japanese war, can not occur with the Germans. In France we claim, that by seeking cover, an effort should be made in the

maneuvers, as in actual war, to give to the enemy so far as possible the impression of these gaps, which are so troublesome for the adversary. We believe this to be approximating a condition which will be a reality imposed in war.

On the German battle field such a gap can not exist, since the exposed positions of the zones of attack are occupied. Moreover, the reserves follow exactly the first lines.

One will then be certain, over any zone whatever, to see, if the terrain permits, the first line advancing, followed successively by the different lines of reserve. Instead of marching as in France, generally grouped in small columns utilizing the passage ways of the terrain, these reserves are obliged to advance over the zones assigned to them, whether these zones be favorable or not for defilading them. Over the exposed zones they march like the first line, in large deployed chains.

It was of importance to show up these methods of marching of the German infantry. They seem to us subject to criticism, but it cannot be said that they are not in conformity with the spirit of regularity and order that prevails in Germany.

FRONTS.

The German regulations abstain from giving any data as to the extent of the fronts; they leave complete initiative as to this matter.

“The initial development of the front will depend upon the strength and intentions of the force and upon the development of the hostile front.” (I. R. 288.) In the case of a definite offensive against an enemy deployed in a defensive position, the regulations fix as

the front not to be exceeded 500 meters for a company and 1,500 meters for a brigade.

These are the only figures found in the regulations pertaining to the subject of fronts.

It is evident that the fronts can not be fixed: they are preeminently variable depending upon the circumstances and the terrain. The perfecting of the armament, the increase in the range of the weapons allow their width to be considerably augmented. A line, even though thoroughly defended, will surely have empty sections in it.

The supporting points of the position will be occupied; exposed passages that can be swept by cross fire will be left without troops. The assailants will move upon these supporting points avoiding the denuded passages.

The line of battle will no longer form a continuous line of defenders or of assailants, but a succession of positions over which the combats will take place.

It will often be very advantageous to use forces economically over one part of the line in order to be able to use more of them elsewhere.

In Germany, as in France, the distribution of the forces will be essentially variable. There will be sectors very feebly occupied, while others will be very strongly occupied. It rests with the supreme commander to make the distribution according to his intentions.

The gaps were numerous on the Russo-Japanese battle fields. These gaps, when left so intentionally with their defense provided for, offer no danger; we have already spoken of them.

One of the most conclusive examples of the impossibility of the enemy's penetrating them, when they are swept by the fire of the artillery and the machine guns, was seen at the battle of Liao-Yan. Colonel Danilow relates that in this battle, in one of the sectors of the right of their position the Russians left an interval of three versts (3,200 meters) protected by artillery fire. The Japanese conceived a desire to cross it, but their attempt did not succeed, and the cross fire repulsed them with such losses that they did not dare to renew the attempt.

The combat fronts in the Russo-Japanese war were extremely variable and it can be observed that they were very extended.

On the Japanese side, a division, acting with others, had a front varying from five to ten kilometers; in an exceptional case it occupied only 2.6 kilometers for the center and left in the battle of Liao-Yan, where the Japanese moreover suffered great losses in their attacks. The average front for the division, during the entire war was 6 kilometers.

On the Russian side, the width of the combat front of the division was much less; the general average was three kilometers, that is, half of the Japanese fighting front. But it must be added that the Russians by their passivity permitted every imprudence.

The Japanese fronts were often wide beyond bounds. Moreover in extending their front indefinitely, they were often, in various battles led into creating veritable breaks, unforeseen, not commanded by the fire of anything, openings through which the Russians could have broken up their line of battle. Their example is not to be followed.

However that may be, the Russo-Japanese war demonstrated that the fronts in future battles will considerably exceed what could be considered reasonable a short time ago.

In their last large maneuvers, the Germans used some very wide fronts. They imitated the Japanese.

On September 15th, the Third Division of the Red force took the defensive and covered a front of seventeen kilometers.

On September 16th, the three Red Army Corps (the Third, the Twentieth and the Fourteenth), according to the orders for operation, engaged in action over a front forming a concave line with a development of twenty-seven kilometers.

On September 17th, the two Blue Army Corps occupied a defensive position behind the Tauber with an extent of seventeen kilometers; there were but three divisions on the front, twelve battalions having been massed as a reserve in rear of the left wing.

During these three days the two forces, when they engaged, did so in long lines with insignificant reserves.

On the 15th, the Red force had no reserve at all; it hastily constituted one during the course of the operation.

On the 16th, the battle anticipated by the Red force did not take place; the enemy slipped away, but the order of battle showed no provisions for any general reserve.

On the 17th, the reserve of the Blue force, consisting of twelve battalions, was placed behind the left flank.

These methods of the Germans, imitations of the

Japanese warfare, are to be understood and remembered by us Frenchmen.

FIRING.

The German regulations, like those of France prescribe marching toward the enemy the longest time possible without opening fire.

“Distances at which fire should be opened cannot be fixed in advance; but, over flat and open ground, good infantry ought not to open fire before having reached medium ranges (1,200 to 800 meters).” (I. R.)

“Beginning at two kilometers,” says Captain Soloview, “The losses caused by infantry fire commence to be sensibly felt; at a distance of one kilometer this fire becomes very effective.”

Colonel Neznamow confirms this statement:

“The present rifle,” he writes, “Permits, by expending a great many cartridges, the infliction upon an adversary of serious harm beginning at two kilometers, provided the objective offers considerable dimensions.

“Between 1,800 and 1,400 meters, fire gives good results especially from the moral point of view. At 1,100 meters the fire by the deployed firing line is generally begun.”

It can then be admitted that firing will commence, on an average, over flat and open ground, at from 1,000 to 1,200 meters. This necessity for an early opening of the fire is imposed more and more by the improvement of the weapons. A force cannot be led very long under the effective fire of the enemy without being permitted to return the fire.

The Germans seek to gain the superiority of fire

at the beginning: hence, as we have shown, they deploy at the beginning a dense firing line.

As soon as it is believed, say the German Regulations, that the superiority of fire has been obtained, it is the duty of every fraction to profit by it to gain ground. The march is made by rushes, the fraction which is advancing being supported by the fire of the neighboring units. Progress is thus made from position to position.

When at one of these positions the fire of the adversary stops the movement, the firing line is reinforced in order to try to regain the superiority of fire, which will permit a new rush to the front.

The local reserves, therefore, melt little by little into the firing line as that becomes necessary.

“In order that the attack shall be well conducted the firing line ought to be kept as strong as possible by successive reinforcements. The question of reinforcement must be the constant care of the leader.” (I. R. 341.)

The arrival of the reinforcements is not in Germany the signal for the rush forward, but for the resumption of an intense fire in which the new arrivals take part.

The regulations indicate that the Germans do not think that a permanent superiority of fire can be easily obtained. This superiority being acquired at a particular moment, a more advanced position will be gained from which the struggle will have to be recommenced.

“From the moment when fire is opened, up to the point from which the assault is to be made, the combat will be developed with alternating success or lack of success, with a stubbornness and nevertheless a slow-

ness that will sooner or later wear out one of the contending parties." (M. G. R.)

Infantry regulations in Germany, as in France, recommend that the platoon leaders keep control of the fire as long as possible; but they admit that at some particular moment this control will be completely lost.

In the combat of the present, control of fire is very difficult. From each position the infantrymen have a tendency to open the fire as soon as they are prone, without awaiting orders. A man in face of danger has an instinctive need of distracting his mind and of stifling the feeling of fear by keeping up his activity.

"It is impossible to regulate the fire when the men have not received solid instructions and when they are not controlled by the severest discipline," wrote Captain Soloview.

At the short ranges, starting with about 400 meters it is no longer a question of regulating the fire; the men lose all their calmness.

"The distance once reduced to 400 meters," writes Colonel Neznamow, "it becomes difficult to aim; the bullets fly over the heads and fall far to the rear."

It is a phenomenon that has been known for a long time. At these short ranges the farther one advances the fewer losses he has.

"At these distances," said Colonel Ardant du Picq, as far back as 1869, "the men no longer take aim; it cannot even be said that they fire: they make a noise to distract their minds."

By their very careful instruction in firing, by their very severe discipline, and by the aid of the squad leaders who second the section leaders, as we have shown, the Germans hope to preserve for the greatest

possible time the fire discipline and to acquire thus the superiority over an enemy "of a more nervous disposition, less disciplined and less densely supported in line."

THE ASSAULT.

"To attack," say the regulations, "is to carry a line of fire as near as possible to the enemy. The assault with the *arme blanche* definitely seals his defeat."

Before the Russo-Japanese war the Germans used to believe that fire action would be sufficient to overcome the resistance of the enemy; the assault was to take place only to crown a victory already acquired. War has shown that if fire action is necessary in preparation, the attack can nevertheless be made successful only by a hand to hand combat. The bayonet has re-taken the very important place which had been refused to it.

The Germans have taken this into consideration; we have said that the French should rejoice because of it.

"When the first line gets the impression that the moment for the decisive attack has arrived, it should not hesitate to deliver the assault. It warns the fractions in rear by means of signals. These fractions immediately assemble and dash forward without heeding the losses they suffer." (I. R. 345.)

The signal for the assault may be given by the subaltern leaders further in rear. "This signal is that of the rattling of the bayonets on the gun barrels." (I. R. 147.)

The assault is delivered when one has reached a distance of about 100 meters and when one feels the enemy to be sufficiently shaken. Note that the dis-

tance for the assault, fixed in the regulations as about 150 meters, has just been reduced to about 100 meters by instructions from headquarters. (Amendments to the Infantry Regulations in October, 1909.)

It must be observed indeed that the assaults started too far back in the war in Manchuria nearly all failed. It often happened that the adversaries could not or dared not hurl themselves upon a position until they had arrived within distances much below 100 meters.

The artillery has the duty of preparing the assault.

“As soon as the commander of the force has indicated to the artillery commander the point upon which he will make the decisive attack, the artillery must concentrate upon that point an overwhelming fire by occupying enveloping positions so far as possible. It is at this moment at the latest that the artillery fractions which have been held in reserve are thrown into action.” (A. R. 470.)

“The infantry batteries must accompany that infantry to support it at short ranges.

“The howitzers and principally the heavy artillery, must crush by their plunging fire the supporting points of the defense, and destroy all the obstacles.” (H. A. R.)

Such are in effect, the prescriptions relative to the assault. They are the paragraphs which appear to us to be the least clear; they are even conflicting.

It is possible that the regulations were intentionally left very vague on the subject of the assault.

The regulations appear to lay down as a general rule that the signal for the assault is given by the firing line. In certain cases, however, they admit that this signal may be given by the commander.

The Germans claim that the cases will be very rare when the commander will have exact knowledge of the situation of the firing line, and of its possibilities to deliver the assault. It is, therefore, they say, for the subaltern leaders who direct the firing line to understand when the time is propitious and to give at the proper moment a signal which is to determine the dash to the front.

THE PREPARATION OF THE ASSAULT BY THE ARTILLERY.

If generally the troops of the first line are to give the signal for the assault on the point which they believe they are able to carry, it may be wondered how the artillery can prepare in advance the road for the infantry. It would seem by simply reading the regulations that, except in the particular cases where the commander gives the signal for the assault, it can never be foreseen at what point the efforts of the first line will be crowned by success. Consequently the prescriptions of the artillery regulations relative to the preparation of the assault appear to be an artifice.

In order thoroughly to understand the regulations it is necessary to be well posted in the general tactics of the Germans.

They do not understand the decisive attack as we comprehend it in France; they attack along the whole front with the fewest men possible and bring about the decisive event on one of the adversary's flanks. This attack which must be decisive is conducted with the same methods as a frontal combat, but with more violence and a greater concentration of means.

When the regulations prescribe that the general-in-chief shall indicate to the artillery commander the points

upon which the decisive attack will be made, they mean that the former will have to indicate the points of the enemy's flank which must be enveloped if possible. On the attacking wing the Germans will concentrate a great mass of artillery; they will use there all the artillery kept in reserve and still available.

THE ACCOMPANYING BATTERIES.

The regulations prescribe that certain batteries will accompany the troops making the assault. This seems to us still more difficult in the German army than in the French army. How can it be conceived that batteries uncovered, or barely masked, as the German batteries are, can at the most decisive moment of the battle, bring up their limbers, expose their teams and follow their infantry?

In France, General Percin recommends taking for this work of accompanying the infantry, batteries that are to be kept out of the duel, and which are to follow sheltered routes. It will not always be easy to find these routes. These batteries appear to us to be terribly exposed if they advance too far or if they uncover themselves; but after all it will be admitted that batteries that are well desiladed, as will be a great many such batteries, *can* get in motion without being seen and without being obliterated; but how can this be claimed for German batteries? And yet by consulting the most serious works of our neighbors on this subject it is seen that they speak glibly of changes of position for the artillery engaged in action. In regard to the accompanying batteries here is what General von Rohne says:

“There is no doubt that it will hereafter be difficult for the artillery to accompany the infantry attack * * *. If the new position is situated in the zone of action of the enemy’s infantry fire, and if the position cannot be occupied out of sight of the enemy, the dash to the front may be terminated by the complete destruction of the battery, and the object aimed at will be completely missed.”

General von Rohne concerns himself very justly with the danger incident to the occupation of the position, but he says nothing of the danger, which is just as great, of the *starting off* and of the *march* in accompanying the attack.

If these batteries were able sometimes to accomplish their mission in certain battles of 1870, in the present day with the perfected artillery they appear to us to be consecrated to a very rapid destruction if they are not very prudent and if peculiar circumstances do not protect them.

“In the Far East,” says Major Meunier in his work on the Russo-Japanese war, “no accompanying of the attack took place either on the Russian or on the Japanese side, because it was thought that it meant exposing the artillery to certain destruction. Many authors share this idea and recommend charging the machine guns with this duty because they have no need of teams in carrying it out.”

THE MARCH OF THE RESERVES.

The regulations say that at the signal for the assault “the troops in rear of the firing line assemble immediately and dash forward by the shortest road without heeding the losses they suffer.”

The regulations do not say how this assembly will be made. If the assembling is done in small columns, that will be perfect; but if this assembly is executed by rather considerable masses, battalions or even companies, they are marching to destruction.

If the scattered troops assemble, those which are assembled must *a fortiori* move forward "as quickly as possible without heeding losses." If then, for example, a reserve battalion is massed behind a shelter, it will have to move en masse to the front.

All this part of the regulations pertaining to the assault appears to have a general lack of precision which makes it obscure.

The few precise sentences pertaining to the accompanying batteries and to the march of the reserve seem to us to be susceptible of a terribly dangerous interpretation.

Finally, it is remarkable that the German Regulations should be silent concerning the counter attack which menaces the assailant, and concerning the means for parrying it.

THE PURSUIT AND THE RETREAT.

All the German regulations insist most particularly that the pursuit shall be pushed to the limit. Very wisely they give the clearest and most vigorous instructions that no halt shall be made under any considerations.

"If one is contented with defeating the enemy, one wins only half a victory. The victory becomes complete only through the pursuit, which has for its object the wiping out of the enemy." (I. R. 421.)

Every effort must tend toward the complete destruction of the hostile forces.

The heavy artillery profits by its long range to fire upon the columns in retreat as long as possible.

The field artillery batteries in position continue to fire as long as they possibly can; the infantry batteries quickly occupy the position and execute in battery, no matter how; it's a question of firing as quickly and as rapidly as it can be done.

The batteries that have retained their mobility and that have been able to get a fresh supply of ammunition pursue the enemy with the co-operation of the infantry troops that are the least exhausted. (A. R.)

The pursuit must be kept up to the limit by every possible means. It is essential to push the enemy hard, to get him at your mercy by means of shrapnel, shell and rifle bullets, by running him through with bayonets if necessary.

"The cavalry must all have moved forward as soon as it perceived that the fight was nearing a decision." (C. R. 514.)

"The cavalry and the infantry on the wings endeavor to outflank the enemy in order to fall upon his flanks or to cut off his retreat." (I. R. 423.)

The cavalry, by covering great distances must keep harassing the enemy's flanks and not leave him a moment's respite.

The regulations of the three arms agree in specifying that to obtain the result sought after, the leaders must keep up their energy to the last extremity and must demand, with severity if necessary, more than is possible of their men. "Those who fall will stay down."

(A saying that has become a proverb.) "There is no consideration whatever that should stop the pursuit by day or by night, without relaxation, until the enemy is completely annihilated." (I. R. 424; C. R. 515.)

These prescriptions conform thoroughly to sane reasoning. The Germans have realized how fruitless would be a dearly bought victory if it did not result in the annihilation of the hostile army.

The Japanese triumphed painfully over the Russians; they never knew how to, and were never able to exploit their success.

The exhaustion of their troops, the lack of reserves, and especially their great inferiority in cavalry were the causes of that. The few batteries which made an attempt at the pursuit with fire action were obliged to stop almost immediately from lack of ammunition. The Russians withdrew without being pursued, and they were always able to reorganize their forces.

The Japanese Army won some brilliant victories over the Russian Army, but never conquered it.

THE RETREAT.

If the fight turns out unfavorably, a retreat must be made to a position that is easily defendable. (I. R. 426.) It is absolutely prohibited to keep a reserve to protect the retreat; the intervention of the reserve might assure the victory. The movement to the rear should be made in several columns perpendicularly to the front. The infantry gets away as soon as possible, protected by the artillery and the cavalry. (I. R. 428.)

The artillery sacrifices itself so far as that is necessary for the escape of the infantry. It fires solely on

the hostile infantry in order to try to stop it. (A. R. 474; I. R. 428.)

“The cavalry should sacrifice itself to permit the infantry to get disengaged; it charges the adversary, especially upon the flanks.” (C. R.)

As soon as the position selected in the rear has been reached it is occupied mainly by the artillery, the machine guns and the cavalry.

All these prescriptions are natural. The infantry is the arm that must be got free at any cost. The artillery and the cavalry can withdraw rapidly and consequently gain in speed over the pursuer.

It is astonishing that the Germans, who have very carefully *studied the subject of combat by night and admit so frequently its usefulness*, have not spoken of the facilities for retreat offered by the darkness. To fall back in broad daylight when closely engaged, or after an unsuccessful assault, is to deliver one's self up to great losses.

BREAKING OFF THE COMBAT.

When a retreat is compelled, the best means to effect it without too many losses is to cling tight to the earth and wait for night in order to get away. The Japanese when obliged to recoil followed this method every time they could. A retreat in broad daylight is easily changed into a rout; the enemy regains self control, his firing gets to be well directed and produces terrible effects. The morale of the soldier that is falling back is depressed. The least incident may produce a brain-storm.

Breaking off an action, the regulations say, is more easily done after success. They might well have

added, as do the French regulations, that this breaking off should always be preceded by violent action on the offensive. "The farther the combat has advanced, the more difficult, it will be to break it off," add the German regulations. (I. R. 433.)

The evidence bears out this statement; but it is under such circumstances that one should wait for night to get disengaged and to break off the combat.

Colonel Madridow, in April, 1904, was in command of a detachment; he threw his advance guard against the city of Andjou; the fight having been commenced, he re-inforced the advance guard. He found himself completely involved when he realized that his attempt had failed. He preferred, notwithstanding the danger of the sudden arrival of a Japanese detachment, to remain the whole day before Andjou rather than risk a difficult withdrawal. He sustained his line of fire, kept up a delaying action and waited for night. He was then able to withdraw without losses.

This is a good example to follow. Breaking off the combat is always difficult in daylight; if one is deeply involved disaster is risked.

"A voluntary breaking off of combat in broad daylight," says Major Dickhut, "can be conceived of only in the case where for some motive or other the adversary also wishes to break it off (the fight at Nouart, August 29, 1870), or if by reason of the lack of valor of his leaders one can act without taking them into consideration. In all other circumstances the enemy will very quickly transform a voluntary departure at the beginning into a retreat engendering all the horrors of defeat."

ATTACKING THE ENEMY WHEN HE IS ON THE DEFENSIVE
OR IN A FORTIFIED POSITION.

For the attack of a defensive position, even if it is fortified, the regulations give the same general rules as for a meeting engagement. The prescriptions pertaining to these attacks offer material for only a few remarks.

It will be noted that the regulations speak only of a frontal attack against these defensive positions. They do not even point out that the simplest means of making them fall is to turn them and to proceed to cut their line of communications.

The regulations remain always within the narrow limits of the subject studied, without showing any tendency, purposely no doubt, to discuss tactics in general.

1st. Enemy on the defensive:

If the enemy remains upon the defensive, he renounces all liberty of action and gives it to his adversary.

As soon as information has been obtained that the enemy is established in a defensive position, and the advance guard has verified the fact, the German regulations prescribe that the advance guard shall halt and shall not engage in action. The detailed reconnaissance of the position must first be executed with minute care by officers of all arms and by strong patrols. The reconnaissance permits the commander to determine how the attack shall be advanced and what will be the direction of the attack. If the approach to the position is too difficult to be done by day it will be done during the night.

Troops are distributed in sectors. They start from perfectly sheltered positions situated at least three kilometers from the enemy. (I. R. 367.)

One unit is chosen as the base unit for direction. The march is made by rushes from zone to zone, from one break or one obstacle to another.

Having reached the zone of attack, infantry should open fire along the whole line, so far as possible at the same time.

The artillery, utilizing the information gained by reconnaissance, will occupy defiladed positions and commence the struggle as soon as it is ready, without waiting for the infantry. (A. R. 485-487.)

The prudence of the Germans should be noted; they do not enter into action against a defensive position till after the most minute reconnaissance, which they believe will give them sufficiently exact information concerning the situation and strength of the enemy. Now we shall repeat what we have already said several times: reconnaissance before a defensive position and consequently before an enemy that is hidden and motionless will hardly give any certain results; it can only indicate the outline of the position occupied by the enemy. In war when you want to see and to know, you attack.

In applying the prescriptions of their regulations the Germans always run the risk of striking empty space. An advanced line or, better, some advanced posts of the defenders, will succeed in throwing them off the scent.

The regulations make no provision for the case of an advanced line of defense formed by a mere screen and nevertheless capable of resisting patrols and at-

tacks by cavalry on foot. One must seek in the courses on general tactics of the German schools for prescriptions supplementing those of the regulations.

Gen v. Rohne sums up these prescriptions:

“The reconnaissance of the hostile position is very difficult and often will give no results, even from an elevated point, because the large mass of the batteries will be defiladed in waiting positions.

“There will often be left nothing to do but to follow the advice of Napoleon: *You attack everywhere; then you see.*

“The infantry moves forward into the zone of action of the hostile guns in order to force the artillery of the enemy to show its hand and to occupy its combat positions.

“There must be likewise engaged, with a similar object, a few isolated batteries which the French call “primer batteries*” (decoy batteries).

“It is moreover *very important to know what is in front of one*, and whether one is before the principal position of the enemy, or whether the latter has contented himself with occupying a few advanced posts situated in front of the principal positions. The French have a great predilection for these positions and hope thus to induce the enemy to disclose his strength prematurely.

“But if the assailant perceive the subterfuge, he can in certain cases win a great success by an enveloping attack either by cutting off the retreat of the troops

*Batteries placed with guns a considerable distance apart with no special effort to conceal them; they seek to lead the enemy's artillery to fire upon them thereby disclosing its positions —Translator.

which occupy these advanced points or by hurling them back in disorder on the principal position and penetrating with them into the position."

These prescriptions in the book which is in everybody's hands show that outside of the regulations there is a current of ideas which complete them. General v. Rohne reproduces almost exactly the principles of French tactics.

We have seen (p. 113) that the German Regulations prescribe, in a case of attack on an enemy on the defensive, to open fire with all the artillery as soon as the latter is ready, before the engagement of the infantry. Let us note in regard to this point the difference from the prescriptions studied under meeting engagements.

If the defenders have not unmasked their position, and that will be very probable since they will not have been attacked, upon what then will the German artillery fire? It seems to us that there is here a gross error which did not escape General v. Rohne.

The measures of precaution laid down by the regulations for the prudent and well ordered march of the infantry appear natural. It is wise to regulate very minutely the dispositions for the attack of a position that has been prepared for defense.

2. The attack of fortified field position:

In considering the case of this kind of attack, the regulations recognize that the defenders will occupy an advanced position; they recommend pushing them back on the principal position before executing the indispensable minute reconnaissance. (I. R. 376.)

The attack will be advanced usually at night.

"A position can not usually be reconnoitered until the enemy has been forced to occupy it. For that

reason it is necessary even during the day for infantry detachments to feel the enemy's position along different points and to try to entrench in the vicinity thereof. They are reinforced little by little." (I. R. 376.) (Amendment of October, 1909 to Infantry Regulations.)

The artillery will get into defiladed positions; all possible protective works will have to be constructed and fire will not be opened until one is well acquainted with the necessary data.

"In the most usual case one will not be able to shake the enemy until after the artillery of the defense has been weakened; it will be necessary to concentrate a violent fire upon the parts of the positions which appear to be most important with reference to the form of the terrain and the intentions of the commander. It must not be forgotten that the enemy will probably not yet have occupied the position, or that he has caused it to be occupied only with unimportant forces, so long as the attack has not been fully undertaken; the bombardment of a position will be justified only when it has been learned that it is occupied." (A. R. 493.)

"The supporting points are hammered by the howitzers * * *. As soon as the defenders show themselves they are overwhelmed by the fire of shrapnel * * *. It is important to put out of operation the adversary's machine guns. (A. R. 495.)

"The combat will usually last several days. Infantry will keep under cover during the day and will be able to make progress only at night.

"At the break of day the fire of the infantry and the machine guns in concert with that of the artillery will oblige the enemy to burrow in his trenches. One

will thus be able to proceed with the destruction of the obstacles and to deliver the assault." (I. R. 383.)

Such are the principal prescriptions of this very special form of combat, which resembles much more a siege operation than a field operation.

The German prescriptions seem to be normal and well arranged. We have no observation to present.

In a war between France and Germany we do not anticipate a battle of such nature. The fortified places are already quite numerous, and an army that would shut itself up in a permanent defensive position would be inviting destruction.

The defense will always be only temporary and consequently will be made on a position hastily established, which the enemy will have to take quickly otherwise the motives which imposed a temporary defense will have soon ceased and the force on the defensive will pass to the offensive.

Battles in entrenched camps as occurred at Plevna or Mukden will never take place in a war with the French army.

CHAPTER VII.

TACTICS IN GENERAL.

The German ideas on general tactics differ on certain points from the French tactics. They are only the more interesting to study; if they do not appear very clear in a study of the regulations, they are to be found formally exposed in the courses in tactics and in the military works of their most renowned authors. Moreover, at their large maneuvers it is easy to observe the application of them.

GENERAL DISCUSSION OF THE GERMAN OFFENSIVE.

After the rapid examination that we have just made of the prescriptions of the German Regulations relative to the offensive, let us pass to the discussion of the ideas of general tactics which have served as a basis for the elaboration of those regulations.

The general synthesis of the battle, as it is conceived by the Germans can be summed up thus:

As soon as you meet the enemy, attack him if you are the stronger; but attack him immediately, without delay and without hesitation; don't give him a chance to get his bearings or to prepare for defense.

If you are not the stronger at the time, temporize, delay getting into contact with him, wait until you have assembled all your forces; then when the proper moment has come take the offensive, suddenly, by surprise, with all available means, by engaging your whole strength.

Make the principal effort against the wing of the adversary, which you should overlap, turn, and crush under an irresistible concentric attack.

Such is in its simplest form the conception our neighbors have of the battle.

Let us study with impartial criticism the principal elements of this conception.

1. THE ADVANCE GUARD.

(a) *Generalities.*

The question of the advance guard is one that has been considerably discussed in recent times.

A great evolution is being effected in France in regard to this subject. We would not speak of it if the Germans were not the direct cause of this evolution. The teachings of the *École supérieure de guerre*, which have furnished the strategical and tactical doctrine of the French, were based upon the principles of the advance guard in vogue in the Napoleonic wars. Up to the present times these principles have been regarded as imperative and absolute.

General Bonnal has written: “The conception of an advance guard which is applicable to a detachment, to an army, yet, to a group of armies, dominates all other questions relative to the conduct of war. It is so true that an officer facing a strategical or a tactical situation will avoid any grave faults of procedure if he thinks first of all of the advance guard.”

Such was in effect the French doctrine; from the strategical point of view this doctrine has been modified. Since Napoleon's time conditions of war have changed absolutely and are changing slowly every day; it is natural that there should be an evolution of ideas, as a consequence. The Germans have always been hostile to the idea of the strategic advance guard; this idea

has likewise been abandoned in the new military centers of the French.

The reciprocal situations of the armies at the beginning of the war being given, a strategic advance guard would have no *raison d'être*; it would be the same in most wars between European powers of the present day, at least at the beginning of the operations.

An absolute condemnation of the strategic advance guard would seem to us to be an error. Such an advance guard might be necessary when one does not exactly know the zones of mobilization of the enemy, when one is separated from the adversary by a considerable distance, etc.

Everything in warfare is a matter of common sense; nothing is absolute.

We shall not dwell upon the question of strategy, which would lead us outside the limits of our program, and we shall return to the German tactics.

(b) *The Offensive Advance Guard.*

In France the advance guard has, as in Germany, the duty of affording protection; but it must in addition serve to gather information concerning the strength and the disposition of the adversary. Except in particular cases the advance guard has a distinctly offensive mission: "It must engage vigorously to oblige the enemy to disclose his strength." (French Regulations.)

What are the objections that the Germans make to an offensive role for the advance guard?

They fear, as happened several times in 1870, that the advance guard will drag the main body into battle against the will of the commander-in-chief. Now, in the regulations, they prescribe very justly that the

general-in-chief shall be with his advance guard. The latter has, therefore, this advance guard under his immediate authority and can regulate its movements at will; if he doesn't want it to engage, he halts it. We do not thoroughly understand the fear shown by the German authors.

Our neighbors do not wish to engage completely their advance guard because, they say, if it strikes an enemy that is deployed, it will be repulsed, turned, enveloped before the main body has been able to intervene.

This seems to be a very chimerical fear. An advance guard does not march with its eyes shut; the cavalry, the contact detachments, will have already reconnoitered the enemy; one will know at least his apparent contour, that is to say his front and his flank as they appear; one will know almost where and how he is going to be met. The offensive advance guard has for its mission to tear away the curtains which have not yet been pierced and to force the enemy to a premature deployment, which appears to be such a cherished idea with the Germans.

When this advance guard will have reconnoitered the general position of the adversary, when it will have led the latter to deploy and by that fact to expose his strength and his resources, it will have fulfilled its rôle. If it runs against an enemy that is already deployed it will reconnoiter him more easily, for it will have quickly arrived on the principal line where it will be halted. Will it then risk being annihilated?

The French advance guard is composed of a force equal to about one-fourth of the total strength of the troops; it must be admitted that the adversary will

not have a force greatly superior. Now in the present day conditions of combat, when you are one against four or five you can resist long enough before being obliged to retreat for the arrival of not far distant succor. When everybody is recognizing that combats are becoming longer and longer, how would an advance guard be overwhelmed so quickly that the main body would not have time to interfere?

To recall the combat at Wissenbourg, the Douai Division struggled for six hours against the whole Army of the German Crown Prince. If, instead of being isolated, this division had been the advance guard of MacMahon's Army, that army even eight or ten kilometers away from its advance guard would have *considerably* intervened in time to support General Douai and to maneuver to good advantage against the army of the Crown Prince which was entirely engaged against that unfortunate division.

It will be recalled that the Douai Division, having been attacked at 8:00 o'clock in the morning was still in perfect order and holding Wissenbourg at 11:30. What would have happened if MacMahon's Army could have debouched about 11:30 into the theater of the struggle?

The Germans claim that by occupying a much wider front than the hostile advance guard, they will be able if they have a sufficiently open formation to get that advance guard under a covering fire, with which they expect to annihilate it quickly. This hope could evidently have a serious base if the advance guard would present itself as a package, or in column, or in close formation; but that would be admitting a complete sur-

prise of that advance guard and a denial of any tactical knowledge on the part of its leader.

We have just said that the advance guard should be kept informed and enlightened by the cavalry which precedes it; it ought to know in a general way whether it is going to meet the enemy in motion or established on a defensive line. It ought then, *in time*, to spread out, to distribute its artillery and to protect carefully its flanks. If this advance guard is important, it will be marching in several columns composed of different arms; it will be protected on its flanks by more or less powerful contact detachments which it will not be afraid to space properly.

When this advance guard meets the enemy it will present itself to him under the form of numerous points occupying a very considerable front.

How will the Germans be able to get a converging fire on all that front? All the little columns will be advancing moreover under cover so far as possible; they will vigorously assault all the screens that they encounter and will arrive at the line of resistance without offering a good target either to the fire of the artillery or to that of the infantry. The artillery of that advance guard, distributed in widely spaced groups, will vigorously support the march of its infantry. It will probably be at first out of artillery range of the main hostile position; then, if the adversary has not advanced, it will get into co-operation, remain at a great distance on well defiladed emplacements, seeking either to support the progressive march of its infantry, or, by firing upon the hostile artillery that can be recognized, to provoke in the latter what we call in French the "igniting current." In this latter case, the bat-

teries of the advance guard will play the rôle of fuses to primers. If the hostile artillery wants to try to crush these batteries by taking advantage of its superiority and of its deployment, it will commit according to our opinion a grave mistake. It will disclose its positions, permit them to be marked out, and will not produce a great effect by its fire. We have previously seen what slight effect artillery fire had against covered and protected batteries. The fire of the hostile artillery at long range against the French advance guard batteries will undoubtedly force these into temporary silence, but will not disable them.

We do not believe there is any danger of being annihilated for an advance guard that is actively offensive, provided it be well maneuvered and properly commanded. The German ideas on the subject of the advance guard do not to us seem accurate.

(c) Security and Information.

We have seen that the Germans are fundamentally opposed to offensive action on the part of the advance guard. They expect to get their information solely through their cavalry, and the rôle of their advance guard is merely one of protection.

We have seen how the Germans have entire confidence that their cavalry corps can pierce the screens and get information right up to the very columns or cantonments of the enemy. They expect that their cavalry will be able to carry through all the combats on foot that become necessary, and they consider it useless and even dangerous to reinforce it with cyclist battalions.

They do not recognize the mixed contact detachments which appear to us capable of rendering such great service outside the columns of the advance guard.

“The idea of throwing in front of the army strong mixed detachments,” writes General von Schlichting, “is far from being justified in every case; on the other hand, we must unreservedly accept that of distributing in front of the march powerful cavalry masses which will clear things up a great distance ahead and whose mission will be to furnish the foundations for the decision to be taken.”

We repeat what we have already said—the masses of cavalry will be able to penetrate the screens; but as soon as they find themselves in contact with the advance guard, and with the covering detachments, they will be completely unable to pierce or even to drive back these first bodies of infantry. They can hope, upon entering into a strongly constituted protective net, to break a few meshes, but they run great risks of finding themselves entangled in meshes of infantry bodies from which they will be able to escape only by leaving behind a part of their strength.

General Langlois said several years ago: “The cavalry can not perform the duty of reconnaissance reserved for the advance guard; if it is scattered, a feeble infantry screen will stop it; if it is massed into divisions it will perhaps pierce that screen, but in a single point; it will soon collide with an advance guard. In short it will have seen very little at the price of very great sacrifices.

“For serious reconnaissance, cavalry needs the co-operation of forces capable of piercing the screen and of seeing what they hide; in a word, of mixed detachments.”

For the large units, it appears that these detach-

ments are to be the rule in France; but in Germany they have only, up to the present, been the exception.

We can only disapprove the German tactics, which risks compromising in hazardous dismounted combats organs so important as the cavalry division.

On the whole, notwithstanding their secret service system, notwithstanding the audacity and the temerity of a well equipped and powerful cavalry, the Germans before an adversary forewarned and well covered, will be able to know exactly only the apparent outline of the troops which are opposed to them. They will go into battle with an inaccurate idea of the forces and of the position of the enemy.

As to the rôle of security, the German advance guard ought to be able to accomplish it thoroughly. The measures prescribed by the regulations, the customs which have been so long followed in the German Army prove how well the troops will know how to take care of themselves and to protect themselves against surprise in the field.

(d) *Tactical Rôles of the German Advance Guard.*

We have said that the German advance guard will not seriously undertake the offensive unless it has an incontestable superiority or in case it becomes necessary to acquire some important point at any price.

The quick and immediate attack by a force that knows itself to be superior is excellent tactics. An advance guard should never trifle with detachments which it can destroy or at least repulse.

It will often happen that the German advance guard upon meeting with resistance will not know that it has an assured superiority; in that case it will stop.

If this German advance guard should encounter a contact detachment, like those recommended in France, its rôle would be to struggle with it; but can it be certain that the detachment is weak or that it is isolated? If that detachment knows how to spread itself out, to give the appearance of having a long line of artillery, having really only a few guns; to amplify its forces by its skill and its maneuvering, it will be able to deceive the adversary completely and to induce him to undertake faulty maneuvers.

As a general rule the German advance guard will be very prudent. Prudent, because the regulations prescribe it when superiority is not assured; prudent, because the German character does not take to adventures and to hazardous risks; prudent, finally, because the mind of the leader will be given to order and method, and the German method is to attack only when one has all his forces under his hand.

The Germans will gain contact slowly. While their advance guard is feeling the enemy or resisting from a defensive position the attacks of an aggressive enemy, the main body of the forces, preceded by the artillery, will be massing in rear. The advance guard will be carrying on a delaying action by every means and if necessary, will fall back step by step so as to avoid getting too thoroughly engaged before the arrival of the principal mass.

During all this period of feeling the enemy and of preparation, the Germans will disclose only as much as is absolutely necessary of their artillery, they will remain prudently on the defensive, will appear timid and irresolute. Then we have seen, suddenly, when they be-

lieve themselves to be ready, they will launch their offensive by a sudden, violent and general action.

The battle will be begun, but the battle will have been engaged with a premature deployment and before positive information shall have been obtained as to the strength, the position and the intentions of the enemy.

There is in these methods of engaging a real danger, to the consideration of which we will return.

2. THE GENERAL RESERVE.

Properly speaking, there is no general reserve in the German battles.

The forces of an army are divided into two fractions; one is assigned to the frontal combat, for a covering or a holding action (called by the French, "the wear and tear action"); the other improperly called the general reserve, is massed toward one wing. It is intended either, on the offensive, to deliver the decisive blow by envelopment, or, on the defensive, to parry any turning movement on the flank. The troops of this last fraction are maneuvering troops following a preconceived plan, but are in no way what is called a general reserve at the disposition of the commander-in-chief and susceptible of intervening at such or such a point where it might be conveniently used, depending upon the incidents of the battle.

In rear of the front, in each sector, are found partial reserves, very carefully graduated. These reserves are intended solely to feed the firing line on the front and to hold the enemy while, upon one of the wings, is executed the movement prepared from the beginning, the movement which is to bring about a decision. These

sector reserves are then only reserves for tactical support and not maneuvering reserves.

One hardly finds in the various German regulations, any ideas concerning a general reserve properly so called. The infantry regulations do not speak of it; only the artillery and the machine gun regulations speak of a **contingent** general reserve composed of guns and machine guns.

"In the large units, the commander may reserve at the first a portion of his artillery." (A. R. 365.)

"The machine guns after the first engagement, are to be withdrawn. They form at the disposition of the commander-in-chief a reserve which may be employed to support quickly points that are threatened, to operate on the flanks of the adversary, to support the decisive attack." (M. G. R. 242-243.)

Therefore as a matter of general reserve, the regulations anticipate only a reserve of artillery and of machine guns which will serve in case of need. In practice, it is not, however, seen that the Germans abstain completely from using general infantry reserves.

In the great maneuvers of the last few years, it has been seen that the commanders-in-chief preserved as a general reserve a few troops under their immediate authority. The strength of these troops has been, in certain cases, one eighth of the total effectives; but usually one-tenth. Under these conditions, that reserve, being incapable of producing a decisive effect by itself, can be used only to fill up a gap which might have occurred in the front or to bind the frontal attack to the attack on the flank, or for another useful purpose that can be considered as secondary.

3. THE ENVELOPING MOVEMENT.

THE DECISIVE ATTACK.

The general principle of German maneuvers in combat is the following:

Hold the enemy on his front, turn him, and crush him on the wing.

This very simple maneuver is the one with which the Germans constantly succeeded in 1870; it is the one which they taught to the Japanese and which the latter have employed with so much success. Hence, now, the Germans accept no different maneuver either in strategy or in tactics.

It is felt that the strategy used at Sadowa is the one that they admire the most: March upon the enemy with an army intended for the attack on the front, while another army, assembled at the proper time as an offensive hook, falls upon his flank to determine the victory.

When their preparations for concentration are studied it can be understood that it is a maneuver of the same kind that they have the intention of renewing against us upon the next occasion. The railroads permit them to carry out their plan more easily and on a different scale than in 1870.

But let us leave strategy and remain in the limits of general tactics.

All the German authors extol the same method of combat: As soon as he approaches the enemy to within a distance varying according to the importance of the force (twenty-four hours at least for an army), the commander-in-chief "designates that part of his troops which will perform the demonstration or remain upon the defensive, and that which will take the offensive." (General von Scherff.)

"He will divide his forces into a principal attack and a secondary attack, assigning to the secondary the smallest possible number of troops." (Griepenkerl.)

The frontal attack, which is the *secondary* attack, is however, made with all possible energy. "To make the envelopment successful," say the infantry regulations, (Par. 392), "the enemy must as a preliminary have been held on his front. The best means for that is to attack him vigorously."

"If the forces are insufficient to make a vigorous frontal attack, or if, for some reason or other, this attack must be given up, a skillful leader will be able to make the envelopment possible by means of a delaying action or by simply threatening an attack."

Let it not be forgotten that the attack on the flank is worked out according to the information collected *before the engagement has cleared up the situation*.

"The simplest envelopment," say the infantry regulations, (Par. 394), "consists in bringing the troops that are *farthest* away upon a wing of the enemy by simply giving them the proper direction on the march.

"The envelopment becomes more difficult if it is not begun until the moment of deployment or if it is done by reserves held in rear."

The fraction of the forces charged with the frontal attack advances in shallow columns widely spaced and enters vigorously into action. The cavalry leaves the column toward the side where the principal attack is to be made. Along the whole front there is only a rather deep line, quite solidly organized but, as we have seen, without a general reserve, without a maneuvering force at the disposition of the general-in-chief.

"The massed enveloping force is advancing at a

certain distance on the flank so that its interior wing will not get wedged with the neighboring wing of the forces engaged." (I. R.)

When the proper moment appears to have arrived, the general-in-chief sends it an order to attack.

Such is, on the whole, according to the official documents, the attack which our neighbors consider as decisive. This attack, for the force that executes it, seems to be a frontal attack, and the procedure in matters of combat are identical with those which we have studied.

4. INVIOABILITY OF THE FRONT.

The Germans do not believe in the possibility of piercing the front of a line of battle, nor in winning a victory by breaking through the hostile lines.

Their theory on this subject is as follows:

Any force which would advance in the form of a wedge into the hostile front would be immediately crushed by the converging fire and repulsed by the intervention of the adjacent sector reserves.

Napoleon was able to win brilliant victories by breaking the enemy's front; but in his time firearms had little effectiveness and were of very short range. Troops located on the flanks of a break made in the line were unable to interfere to a sufficient degree.

Nowadays not only would the infantry fire from the neighboring sectors enfilade the whole invading lines, but the cannons placed upon the flanks, in positions defiladed from the fire from the adverse front, would shower a crossed fire upon the venturesome invaders. One can indeed carry a point along the line of the front

and hold it, that will be a partial success such as will often occur for one side or the other, but it will be explicitly forbidden to throw upon a given sector a mass intended to break through and gain a victory. This mass, whatever formation may have been given it, would always form an objective or a series of very vulnerable objectives; it would be rapidly crushed by the covering fire to which it would be subjected as soon as it had passed the first line of the hostile front.

The convictions of the Germans on this point are explicit. (See in regard to this the fourth number of the 1906 Quarterly Military Review of the German *Vierteljahrshefte für Truppenführung*.)

It is to be noted that no where do the German Regulations speak of the inviolability of the fronts; they let it be thought that one can attack everywhere with success. This is prudent and wise.

But the German conviction on this point appears in the writings of their best authors and especially in their actions. In 1870 they never won a victory by a decisive frontal attack. The Russo-Japanese War has still more confirmed them in their belief. And indeed for ten years, in their great maneuvers, the German generals have never attempted a decisive frontal attack; the decisive attack is always made on a wing or upon the two wings at once.

The Germans consider that the troops on the front will always be able to keep up a holding action until the decisive wing attack can be delivered to decide the battle. We know that along the front, in rear of their infantry, they claim that they have placed an impassable wall, represented by their formidable artillery.

The theory of the inviolability of the front, as it is

upheld by our neighbors, appears seductive, but it does not correspond to what is demonstrated by the practice of war. We have shown, by relating on page 98 the German method of operating at their last great maneuvers, that they had no fear for their very extended fronts and did not preserve any general reserves in rear to parry a victorious attack on their front. Thus on the 16th of September, three army corps were to engage simultaneously on a front of twenty-seven kilometers with no force at the disposition of the General commanding the army.

It was almost the same on the other days. The commanders of the armies were, however, two of the best generals of the German Army.

The principle of the inviolability is then perfectly accepted and applied by our neighbors. We should know this and remember it.

5. GENERAL CRITICISMS.

Hence the general idea of the battle is based among the Germans on four elementary principles:

Prudence of the Advance Guard;

Inutility of a General Reserve;

Inviolability of the Front;

Decisive Attack by Envelopment.

We cannot choose as a defender of these ideas any one better than Colonel Kuhl of the great General Staff. In 1904 he wrote in the German Quarterly Review:

“To hold the enemy everywhere and to seek the decision by massed reserves acting under the orders of the General-in-chief in the zones selected by him—such methods have become impracticable.”

It is the Napoleonic method, it is the French tactics which is condemned.

And further on he adds: "The question arises even of knowing whether in the great battles of tomorrow it will be possible to seek the decision by the action of a reserve. The reserve could intervene only where the conditions were ripe for it; but, from the point where the general-in-chief will be, will he be able to discern the favorable point? If so, will the reserve have time to get there with the enormous extension of the present front?"

The author seems to confound the general strategic reserves with the tactical reserves. It is certain that the reserves of a large army or of a group of armies cannot be led unexpectedly against a given point. Nobody argues it. In strategy a plan must be foreseen and fixed upon in advance, depending upon the conditions.

The contingencies of a battle cannot completely alter a strategic plan, at the most they can bring to it certain modifications. Here we are speaking only of tactics, hence of a *tactical* general reserve. Now, if the combat fronts have been considerably increased, the capacity for resistance of a force has grown enormously. A battle will last several days. A general reserve may be ten, twenty or thirty kilometers from the point where it is to make its attack and get there on time. The General-in-chief, when he has engaged everywhere and *has seen* does not wait until the conditions are entirely right to cause his reserves to approach the point where he wants to deliver his effort.

Colonel Kuhl adds: "Even if the moment was propitious there would be reason for wondering whether

the intervention of a general reserve would be useful. It would not be if the preparation by fire action had been completely accomplished; for then the intervention of the partial reserves in echelons in rear, assigned to the same sector of the field of battle would be quite sufficient to give to the first line the moral support it would need to throw itself into the assault. And if, on the contrary, conditions are not right, the reserves by reason of piling up so would be running into certain catastrophe."

We will not dwell on this reasoning which, carried out to the extreme, would seem to say that the more reserves there are to support an assault the more chances there are of failure; let us remember only that affirmation that large reserves that pile up run into a certain catastrophe. Nobody disputes it.

But if the enemy is spent, if the attack by fresh troops is made by surprise, as it is understood in France, one can not seriously say that the partial reserves of the enemy will be sufficient. It must be admitted that on both sides the wear and tear will have occurred on the troops of the first line; the partial reserves will have been engaged, the greater part of them at least. To suppose that the reserves of a sector will be sufficient not only to carry a given point, but to break completely a hostile line and to assure victory, is to suppose that the adversary is incapable of struggling seriously or that *he* has engaged *without* partial reserves; in that case tactics has nothing more to do with it, nothing remains to be done but to march to the front.

To suppose that sector reserves will be sufficient to carry a position defended by forces approximately equal seems inadmissible. One cannot argue on such hypotheses.

No, in a struggle between two adversaries approximately equivalent, it must be admitted that if one of them has engaged all his forces in a given sector he has forced his adversary to employ almost all of his. At the end of a certain time in a holding engagement, the exhaustion is general; one can do no more, one doesn't want anymore. Only a few reserves can be considered as still available.

But, if at this moment there appears a fresh force, strong and supported by a formidable artillery, how can it be claimed that this attack will not succeed and that the feeble reserves will be sufficient to repel it? The adjacent artillery will be held fast by the superior attacking artillery and will be incapable of producing the effects of convergence that the Germans talk about. However, the attack by these troops of general reserve should be made in wide formations and with the necessary precautions for the flanks.

General Kuhl, as well as the other German authors, always argues on the question as if a decisive French attack would be made against fresh troops supported by artillery in possession of all its capabilities.

There lies the error.

The method of always hunting the hostile flank to win the decision by envelopment does not present merely those advantages which are so vaunted by the Germans; it has also some very great disadvantages which it is well to point out.

It is of course understood that, according to the German method, there is assigned to the combat along the front as few troops as possible in order that the attack which is to produce the decision may be well reinforced; now in looking for the enemy's flanks, by ex-

tending one's front with that object in view, one may succeed in extending his lines to an inordinate degree.

If the troops for the combat on the front are not strongly organized, if they are not carefully connected one with another, if unusual gaps happen to occur due to errors or to weakness, what will become then of all that German theory concerning the so-called inviolability of the front? It is almost impossible to affirm, in view of the preconceived plan accepted by the Germans that the troops that will be assigned to the combats along the front will be sufficient and that they will not have to be extended more than they should. Let it be remembered what was on August 18, 1870, the surprise of the Germans upon learning that the French front extended as far as St. Privat.

In the recent war in Manchuria, in the battle of Mukden, to cite only that one, the Russians would have had a safe opportunity to pierce the Japanese front. That front which was immoderately extended presented many weak points. The counter attacks failed because they were not strong enough, not properly prepared, not accompanied by artillery. The adjacent forces seemed to be disinterested in the counter attacks, instead of supporting them by redoubling their activity.

If General Kuropatkin, being posted as to the enemy's deployment, had thrown the First Siberian Corps or the Sixteenth Corps, which he had as a general reserve, upon one of those numerous weak points in the enemy's front, it is quite probable that the issue of the struggle would have been totally modified. If, for example, he had thrown his counter-attack in the direction of Goutoulin, where there was a complete opening in the Japanese line, he would have completely sepa-

rated Kuroki's army from that of Nodzu and could have, without meeting other than a few battalions, fallen upon the rear of General Nodzu.

Who would dare to say that the Japanese front was inviolable.

The moment the Germans accept the impossibility of a decisive attack against the front of the enemy and consider that the sector reserves are sufficient to insure the inviolability of the front, they are quite naturally led to place their general reserve on a wing. Here is what Colonel Kuhl says: "In the middle of the front, this reserve would be used only for an offensive attack. Now, that form of attack has become much more difficult and unpromising since the great range of the arms permit concentrating strong fire upon the assailant who forms a wedge.

"If one has decided, on the contrary, to employ that reserve upon a wing it will be difficult to engage it at the desired time and place by causing it to make changes of position toward the side in rear of the front; the employment of the reserve appearing to be more convenient upon a wing, it is there that it will preferably be placed. But, why not put it there before hand, especially since it will then be already there to envelop the enemy? One can make as many objections as one may wish to the mania for envelopment; nobody will dispute, however, that the envelopment is the most effective form of attack, because it offers the only sure means of deploying a superior number of guns and rifles for concentric fire; from the point of view of procedure it is the one which promises the best results by permitting action upon the flank and the rear of the enemy."

Thus it is that in the German Army the general reserve is no longer a reserve properly so-called, because, being placed beforehand upon a wing for a definite mission, it is no longer at the disposal of the general-in-chief.

Is the attack of a wing more advantageous than the attack of the front?

Yes, certainly, if one is dealing with an enemy who has not anticipated it, or who has not taken the measures necessary to prevent its success. But when one finds oneself in front of a prudent enemy who is skilled in maneuvering, the wing attack will not be found to offer *a priori* any better conditions than the frontal attack.

If the enemy has supported his two wings, either on a fortified position or upon an impassable obstacle, how would the flank attack be possible? Now, a supporting point will be sought more and more, if not for both wings at least for one of them. In case one or both flanks cannot be sheltered, artificial supporting points will be created, which will of course not be impassable but which will strongly support the threatened flank.

The great disadvantage of the flank attack is that it can almost always be anticipated. A frontal attack, on the contrary, cannot be divined beforehand, or at least it can be foreseen only a few moments before its execution, that is to say often too late to be able to parry it.

For a flank attack to succeed one of the essential conditions is that this attack be made against what is really the wing of the adversary. Can one be certain

in making an attack that he has found the real wing of the principal line of the enemy?

If one makes a mistake one risks disaster. The active protection of the threatened flank will be made, in reality, by a force echeloned in rear which it will be very difficult to reconnoiter. These echelons will have in front of them mixed detachments, and occasionally cavalry supports, which will be able to deceive absolutely the adversary as to the extent of the front really occupied. When the assailant seeks the wing which he has in advance resolved to attack, he will be obliged to extend, undoubtedly beyond all his expectations in order to find the last detachment and the last echelon.

If the flank attack is launched before the disposition and the forces of the enemy have been thoroughly reconnoitered, there is a risk, when dealing with an enemy skilled in maneuvers, of finding *oncself* taken in the flank at a critical moment by a reserve of the adversary which will have been previously placed in *overlapping* echelons far to the rear.

The Germans are mistaken when they claim that the wing attack is always preferable to a frontal attack.

The decisive attack will be profitable only if it is made by surprise; the flank attack can hardly be by surprise.

If the frontal attack appears to offer a disadvantage through taking the form of a wedge into the hostile line and through seeming to permit the concentration of the converging fire of the adversary, the flank attacks will almost always offer just as great a difficulty because of the impossibility of attacking the forces at the extreme limit of the enemy's disposition.

The frontal attack, or at least an attack not pre-

viously designated, presents moreover the opportunity of using the facilities that the ground will offer for its preparation.

This attack has the advantage of *not* being thrown against a position that will be strongly defended by fortifications constructed to resist it. The adversary not being able to foresee it will not be able to establish beforehand, as he would be in the case of the exposed flank, important defenses at the point where it will take place.

And what can be said of the initial disposition for battle to which the preconceived plan of the Germans will lead? The force intended to make the envelopment is placed in advance on a wing in overlapping echelons even before the enemy's front has been attacked and before the disposition of his troops have been determined. But what will happen if one makes a mistake? We will let Colonel Kuhl answer:

"That this manner of giving battle presents certain inconveniences" confesses the Colonel, "nobody disputes; as the battle has been prepared, so it will have to be developed; for thereafter the commander will not be able to make any further essential changes in the distribution of the forces * * *. If the effort does not succeed at once, it will fail."

The German colonel is certainly right; he might have added: "If the enemy is not very inferior and is not willing to allow himself to be done up, the effort will very often fail."

How can any leader dare to take fixed and unchangeable dispositions for a fight on the mere information obtained by cavalry and spies? A front will be pointed out to him, but has no mistake been made?

As we have already said, the cavalry, for many reasons, is unable to tear away the veil from the real front of a disposition.

Without going back to the examples of the wars of 1870 or 1878, which show the errors which can be committed by cavalry, we will point out merely what took place in the great German maneuvers in 1895. General von Eichhorn commanding the Eighteenth Corps made his plans on September the 8th to envelop the left wing of the Eighth Corps. Misled by erroneous information his maneuvers failed completely.

If one is deceived at the maneuvers, what will one be in a war?

In an organism like an army, the general-in-chief must make his plans at least twenty-four hours in advance.

What is there to prove that the front tomorrow will be the one that was reconnoitered today? That some important force echeloned in rear will not stop short the enveloping movement at a time and place which will not have been anticipated? That fortuitous circumstances will not modify the data concerning the enemy and all the expectations of the commander-in-chief? For an attack that has been prepared in advance to succeed, it must be carried on with unfailing exactness with reference both to time and to space.

CHAPTER VIII.

THE DEFENSIVE.

THE GERMAN DEFENSIVE COMBAT—CRITICISM THEREOF.

The general discussion we have just made of the German offensive combat is applicable in part to their defensive combat. We shall not make a separate discussion of the defensive combat, which would bring about repetitions; we shall examine the regulation prescriptions and the German doctrine for the defensive combat as the opportunity arises in the general discussion of the defensive.

1. OCCUPATION OF A DEFENSIVE POSITION.

Preparation of the Position.

“The principal conditions that should be fulfilled in a defensive position are: to present a clear field of fire, to permit of free movements, under cover, within and to the rear of the position; to have at least one of its flanks solidly supported.” (I. R. 392.)

“The works are usually not arranged in a continuous line, but in groups. The intervals between the groups offer no danger if they are commanded by the fire from the trenches.” (I. R. 408.)

We have nothing special to point out in the regulations relative to the establishment of the defensive position; these prescriptions appear to be excellent, and they conform to those of the French regulations.

The Germans are particularly careful in regard to their lines of information, especially upon the defensive. They recommend that communication by telegraph

and by telephone be established with the greatest care.

One remark in passing. It is stated (I. R. 406) that field works lose much of their value when they facilitate the enemy's reconnaissance. That is absolutely correct. To dig a trench which is visible to the enemy is to give him a reference point to show him where to strike. Not enough care is taken, as a rule, in concealing the defensive works.

INFANTRY AND ARTILLERY.

The position, the regulations wisely say, should be divided into sectors among which are distributed the troops assigned to the defense of the front; each sector is provided with its own special reserve, the reserve being smaller as the ground is more covered.

“The first thing to think of is the use to be made of the artillery.” (A. R. 502.)

The employment of the infantry is just as important as that of the artillery; but the Germans have a marked predilection for the artillery on the defensive; they seem to expect the most protection from it.

“The infantry should be about 600 meters in front of the artillery.” (I. R. 401, A. R. 502.)

This prescription seems astonishing. The regulations (Par. 144) do say why this distance should not be less, but not why it should not be greater.

When they have no cover, the infantry supports should be at least 300 meters from the firing line, say the Germans; in France, we say at least 400 meters. In rear the reserves are placed at a distance varying from 300 to 500 meters. For the artillery to be able on level ground, to fire with safety over the infantry, it must be at least 300 meters in rear of it.

According to these figures, it may be wondered where the Germans will place their sector reserves. Furthermore, if the infantry line of fire is only 600 meters from the batteries, the artillery will find itself compromised in case the said line wavers in any pronounced degree toward the rear.

The indicated distance of 600 meters seems to us to be remarkably insufficient, it could only be given as a minimum to be allowed only in certain especially favorable conditions.

"Careful attention must be given to the establishment of the artillery on the position in echeloned groups, assuring the possibility of concentrating the fire of these groups; provision will also be made for firing toward the flanks and for the use of crossed fire." (A. R. 504.)

The formation of the artillery into groups, the echeloning of these groups and of the batteries in the groups are wise and prudent measures.

The flanking or enfilading fire of batteries masked in the passageways of the position can produce extraordinary effects at a decisive moment. The German regulations therefore, very wisely prescribe that such a use of the batteries shall be provided for at the beginning. It seems absolutely necessary that artillery established in position, for this purpose, in advance be used to avoid having to execute possibly disastrous movements at a critical moment. The German regulations are silent concerning the distribution of these batteries and the emplacements to be assigned to them. Their very special purpose permits departure from the principles accepted for the offensive. The fixed positions for the defensive permit determining the ground

over which the struggle will take place and permit fore-seeing the probable needs of the infantry. Common sense will have to be exercised in accordance with the circumstances. General Percin says, with the high authority due him: "There is reason for inquiring whether the local defense should not be provided for with a small number of batteries, of sections and even of pieces, sheltered so far as possible, intended to act only at the last moment."

With regard to the positions to be taken by the artillery, the regulations prescribe: "It will be ad-vantageous to occupy defiladed positions. From such positions the artillery can fire upon the enemy while he is advancing his attack and during his deployment, without betraying before the proper time its positions and its strength. These positions will permit carrying on the duel with a superior artillery strength, and will favor lateral changes of position. On the other hand, the artillery must be able to leave them when necessary in order to fight when it can effectively do so, from the very beginning, the mobile infantry targets. If provi-sions can not be made for changing position with safety during the action, a certain number of batteries should be designated to fire upon the infantry." (A. R. 504.)

As we have seen in the study of their offensive combat, the Germans recognize the use of defiladed positions for batteries that are to fire upon fixed targets, such as the hostile artillery, but never for firing upon mobile targets. On the defensive they recommend de-filading the counter-batteries. The counter-batteries have greater need for defilade when on the defensive than when on the offensive; for they should be able to change their objectives, to fire in all directions, and

even to change position, things they could not do if they were without cover under fire.

General von Rohne says that the batteries that are to be used to support the infantry fire do not need to be in their position beforehand, that they can remain waiting limbered up. He believes that these batteries will be able to move under fire to their positions? If these positions can be taken by a simple movement by hand in front of a crest, that is possible; but if they have to cross exposed ground with their teams under the adversary's fire, it seems to us to be absolutely impossible.

Let us remember that when the reconnaissance shows that the attack is imminent, and indicates the direction from which it will come, the artillery intended to support the infantry is put in position on uncovered or half masked emplacements, which are strengthened by embankments of earth.

A SINGLE POSITION FOR THE DEFENSE.

The defense must occupy only one position according to the regulations.

The Germans condemn the theory of advanced lines. They authorize them only upon the condition that these advanced lines shall fall back as soon as the enemy deploys to attack them. Thus on September 11, 1905, at their great army maneuvers, the Fifth German Corps pushed an advanced line to within a few kilometers of the enemy's advanced posts; the advanced line did not even make an attempt at resistance, if fell back as soon as it saw that the enemy was commencing his deployment.

“No advanced positions,” said the regulations for

the infantry maneuvers of May 29, 1906; "they interfere with the fire of the defenders of the main position and one gets himself beaten in detail. If it is necessary to gain time, trenches can be constructed in advance of the true position to lead the enemy into error; but they will be very weakly held and will be evacuated as soon as the enemy has deployed."

It is certain that advanced lines are often dangerous. As has been said by General Langlois, who has made a thorough study of them, "they should be used only under exceptional conditions."

The same is not true of what we call *covering detachments*, which consist of very mobile troops occupying only certain selected points in front of a line of defense.

These detachments seem to us to be indispensable. They ascertain the direction of the lines of march of the hostile columns, the strength of the hostile advance guard, etc. They serve as contingent supports for the cavalry and enable it to complete its information; finally, they very often succeed in deceiving the enemy, in making him deploy prematurely, in any case in making him lose time.

We can see what happens at the large maneuvers, where the march is made moreover very quickly without considering the blows received; we note the difficulty experienced by an advance guard that has been halted by a hostile detachment in making an accurate and prompt estimation of the situation and of the strength of the troops opposed to it.

In 1870, General von Werder sent out from the Lisaine several detachments in front of his line of defense; von Debschitz to Delle, von Bredow to Arçay,

von Willisen to Lure. Everybody knows how successful their mission was.

General von Rohne admits that "the adoption of smokeless powder and the increased range of modern weapons considerably augment the importance of these advanced posts. These two improvements make reconnaissance more difficult and diminish the danger for these advanced troops of getting cut off from the principal position.

"On the other hand," adds the general, "the fact must not be concealed that the conduct of these detachments still remains a very delicate matter. The difficulty lies in seizing the proper moment to break off the action and to fall back in good order."

The Boers, however, without any study of the subject, frequently used detachments of this sort with the greatest success. We believe that the danger of not being able to get away in time is exaggerated in the minds of the Germans. One only needs to have light troops and a leader that knows his business.

We know that the Germans claim that their cavalry can sufficiently perform the duty that we assign to these advanced detachments, and that the more satisfactorily since it can get away more easily.

We have said what we think about it, we shall not pursue the matter further.

2. THE COMBAT.

When they have received their information from their cavalry, the Germans occupy their positions in accordance with the circumstances existing at the time; not too soon, in order not to betray their positions; not too late to be able to take advantage, if the occasion

should offer itself, of the extreme range of their weapons. It is moreover, not necessary to occupy the whole position at the same time. (I. R. 411, 412.)

It is habitually the commander-in-chief who gives the orders for occupying the positions, and usually he will give the orders for the opening of fire (by the artillery) (A. R. 509, 510). The artillery opens fire with all its batteries *at the same time and by surprise*. It directs its fire at first upon the hostile artillery, unless the assailant shows big columns of infantry. (A. R. 510.)

“There have been for a long time,” says General von Rohne, “discussions as to whether the artillery of the defense, which will probably be numerically the weaker, should not *begin* the duel with the artillery of the attackers. If the assailant does not act with a great deal of prudence, if he doesn’t know enough to wait until all his artillery has arrived before having his batteries take their positions and open fire, the defenders may hope to have numerical superiority, at least temporarily.”

It may be that the defenders may have for some time a numerical superiority, but that is not sufficient. We do not share the General’s opinion; we have already said, and repeated, that the assailants can very well engage only a few batteries as “decoys,” without running great danger, and if the defenders open fire with all their artillery, before the assailants have shown a large proportion of theirs, they are committing a great mistake, they are betraying their positions prematurely.

“When the fire has been opened along the whole front,” says further General von Rohne, “they (the defenders) must not hesitate to engage *their whole*

strength. To keep *a priori* a reserve for the later phases of the battle would be giving all the trumps to the adversary."

To engage all one's batteries, if it is necessary, to gain the superiority of fire, yes, that is fighting the game well; but if it is not necessary in order to gain the superiority of fire, no; it is harmful and dangerous. The batteries not engaged should remain available for the infantry combat or for any other need that may arise.

"When the infantry advances, the artillery should abandon if necessary all defiladed positions in order to fire to better advantage upon the infantry; but it should in the meantime keep the enemy's batteries under fire." (A. R. 511.)

"The howitzers will keep up the duel with the artillery."

The field artillery is then to act at this stage of the battle as it does upon the offensive; we shall not repeat what we have already said upon this subject.

The artillery regulations say further, (Par .512): "If, even before the beginning of the infantry attack, the enemy's artillery shows such a superiority that nothing can be hoped for from the artillery duel, the commander-in-chief may order that the batteries be removed temporarily from the fire of the enemy."

Here is a strange prescription which scarcely agrees with the prescriptions of the French regulations. At a given time, then, the artillery of the defenders, its inferiority having been demonstrated, is to keep silent and to leave free play to the attackers' artillery? What will the defenders' artillery be doing during this time?

The regulations are ambiguous.

General von Rohne's manual will enlighten us:

"It remains to be seen whether the batteries should withdraw into positions that have been prepared, sheltered from fire in order to get reorganized, or whether they should remain in their (first) positions and have the men get under cover. The solution to be adopted depends upon circumstances."

It seems then in Germany to be fitting for the artillery to forsake the infantry in its struggle and to withdraw for the purpose of going and getting under shelter!

Outside of the tremendous support that this withdrawal takes away from the infantry, it ought to produce a disastrous moral effect. Besides, how can these batteries withdraw? In their positions they are so vulnerable that they give up the contest; what disasters will not be theirs if they bring up their limbers? We see once more how easily the Germans accept the possibility of moving their artillery under fire. To remain in their places and let the men get under cover would seem to us the only possible solution.

Again, the regulations add: "As soon as the hostile infantry advances for the assault, the artillery should turn upon it the fire of all the guns without waiting for orders."

General von Rohne estimates that at that moment the batteries will have to go into action in positions different from those previously occupied by them. As, in order to fire upon the assaulting infantry, the German artillery is supposed to go into exposed positions, one wonders how these movements of going and coming before a superior hostile artillery can be considered as possible by serious authors.

The General adds, very justly: "The regulations prescribe that *all* the batteries shall have but a single

objective, *the infantry*. In view of the shortness of time left at one's disposition, it is only by the concentration of all one's strength upon the most important target that a turn of the tide can be hoped for."

The heavy artillery will be able to render very valuable service to the Germans on the defensive. Whereas, upon the offensive, this artillery may have to change position, which is extremely difficult for it to do, and may run short of ammunition, it is, upon the defensive, assured of complete stability and can be kept well supplied with ammunition. It is true on the other hand, that it will have the disadvantage of having for the most part only mobile targets among the assailing forces.

By its long range fire, this artillery will be able to cause hostile columns to halt at great distances, especially if they have defiles to pass through. During the artillery duel, it must seek to crush the hostile batteries, and the Germans hope that it will be able to destroy the batteries whose positions can be recognized. (H. A. R. 613, 615.) This heavy artillery will, at the moment of the assault, produce, by means of its fire concentrated upon the points where the assault is being made, a considerable moral and material effect. We have already discussed this matter, and will not return to it.

"The infantry and the machine guns will open fire as soon as the enemy presents tangible targets." (I. R. 413.)

It is recommended that the machine guns seek elevated positions from which they can sweep with their fire till the last, without danger, the intervals between

the occupied points. (M. G. R., 412 and 338, as amended.)

On the defensive, therefore, it is prescribed to fire at long ranges and to fire a great deal; it will be necessary to have a vast supply of ammunition.

We have no remark to make concerning the conduct of the infantry and the machine guns upon the defensive.

The Germans accord a great importance to the machine guns. The new amendments to the regulations further accentuate the importance attached to this weapon. The Germans believe that the machine guns are destined to render the most valuable service, by frontal fire, as well as by flanking fire on the line of defense and by the enfilading fire that they may be able to deliver unexpectedly.

THE COUNTER ATTACK.

The counter-attack and the counter-offensive are essential acts of the defensive.

However, beyond the counter-attack to be made by the general reserve of the defensive to bring about a decisive effect, the German regulations speak only incidentally of these means of repulsing an attack and of taking the offensive. In the infantry regulations, we can hardly find anything more than the following passage bearing upon the matter: "The defenders will not pass to the offensive until after they have repulsed the attack. They may attack in order to drive out an enemy entrenched in front of the position. A premature counter-attack runs the risk of bringing about the loss of the position." (I. R. 414.)

The defenders who before the later phases of the

struggle, allowed themselves to be drawn out from under cover under the pretext of taking the offensive would commit a great mistake. It is one of the ruses of an assailant to draw the defenders out of their trenches and covers in order to be able to crush them to better advantage.

The counter-attack should be delivered at the last moment, when the enemy is getting ready for the assault or while he is making it.

The counter-attack often gained the very best results in Manchuria, at times when the assailants seemed to be certain of success.

It frequently happened that the Russians, seeing that their fire at close range did not succeed in stopping the enemy, rushed out in a counter-attack. This unexpected menace of the bayonet would succeed in repulsing an attack which seemed bound to be victorious.

There is found here a curious and remarkable fact which shows the predominance of the moral factors in warfare. A force going into an attack marches bravely ahead under the violent fire of the adversaries, which causes it to suffer serious losses; but before the mere threat of a hand to hand struggle, it recoils and runs away.

This moral effect has been manifested many times in all wars, but never so strikingly as in the Russo-Japanese war where, moreover, the firearms were more powerful than ever. This fact should be remembered, and it clearly shows how the counter-attack should be made.

It is curious that the German regulations show no lessons drawn from the last war on the subject of this method of defense.

As to what concerns the counter-offensive, the German regulations are almost mute. They speak of it only under the subject of night attacks. "The reserves of the defenders must be ready to eject the enemy with the bayonet in case he succeeds in carrying the position." (I. R. 416.)

Although the Germans do not believe in the piercing of the line of defense, and expect no definite success from the combat on the front, it is nevertheless strange that the regulations fail to speak of one of the essential defensive actions.

Of course, in practice, the Germans will make counter-attacks and offensive *ripostes* which conform to their general rules for combat; it is nevertheless astonishing that in their regulations there should be this omission which we can not explain.

THE GENERAL RESERVE.

As in the case for the offensive, the general reserve of the German defensive is the maneuvering force intended to win victory by an enveloping attack. This general reserve is placed beforehand in rear of the threatened flank. It is intended to make a counter-attack against an enemy's force that is trying to make an envelopment, or to overlap *itself* the enemy's flank if it can to advantage precede the enemy in making a decisive attack.

To place a strong echeloned reserve in rear of and overlapping the unsupported flank of a defensive position, is in conformity with the elementary principles of tactics, but to place there all, or nearly all of the defenders' reserve appears to be a very debatable idea.

In any case, as has been well said by General von

Schlichting, this reserve should not be placed behind the wing of the defensive position; it could only form there a defensive hook and, consequently, would produce a diverging effect. It should be placed well to the rear and *beyond* the wing, so as to take the enveloping attack of the enemy in the flank, or to overlap freely the assailants' wing in order to fall upon it in such a way as to obtain always a converging effect.

The general reserve should not make its offensive effort too soon. "It will make its start when the frontal combat is in full swing." (I. R., 414.)

"It will be accompanied by and protected upon its flank by all the cavalry available." (C. R.)

The observations suggested by the use of the general reserve on the defensive are the same as those we have offered for the offensive; it is maneuvered in a manner similar to that employed by the reserve in the offensive: it maneuvers, according to a preconceived plan, upon a wing; it maneuvers upon the outer lines to produce a converging attack upon a flank.

The Germans defend themselves with a preconceived plan which they can not change; they can neither break through the front, nor parry a blow that might happen to break through the front, nor can they take advantage of a fortunate circumstance that might occur on the line of combat.

But, if the placing in advance of the general reserve upon the unprotected wing is accepted, it must be recognized that the regulation prescriptions and the tactical ideas relative to the use of that reserve for making counter-attacks are most judicious and worthy of all approbation.

A STRATEGICAL SYNOPSIS.

It was said at the beginning of this work that to understand thoroughly the tactics of an army, a study of its regulations is not sufficient; it should above all be known in what manner they are applied.

We have tried to show, in the discussions of these few pages the German doctrine from the tactical point of view. That doctrine has been slowly modified in the past ten years; it will perforce be further modified, for there is ceaseless progress in the utilization of the forces of nature and there is continual evolution in the thought, the morale and the organization of the races.

To complete the study of this doctrine and to understand thoroughly its spirit and meaning, the German strategy must be studied. We shall at a later time undertake that study.

But in concluding these considerations of the tactics of the German army, we believe that we have shown it under its true light by outlining the general sense of the strategical ideas on the battle which are current in that army.

The great combat principles, which we have studied while speaking of the subject of general tactics, are directly connected with the strategical principles that guide the armies in their application of them.

The Germans have continued to believe firmly in concentrating their armies in the form of a carpenter's square* as recommended by General de Moltke.

*Their armies at the three corners
of the square.—Translator. }



They will offer, during the period of concentration, a "relatively weak" front (General von Bernhardi), facing the hostile frontiers, and one or *several* masses at right angles ready to fall upon the flank of the enemy if he takes the offensive. The front of their masses will generally be supported by a fortified zone behind which the concentration will take place, out of which the attack will come "like a thunderbolt from the clouds." (General von Bernhardi.)

Prudence will dominate the strategical preparation of the Germans. Our neighbors do not appear to be inclined to take the offensive before having assembled all their means. There is in their strategy the same principle of prudence that we have found in their tactics: not to attack until they are ready with all their forces collected.

The concentration at the beginning of war is the prelude of the dispositions to be taken by the directing authority in view of preconceived maneuvers. It is the first act of a studied plan of which the second act will depend upon the enemy, the circumstances and the conception as to the offensive held by the general-in-chief.

When the concentration has been completed, Bernhardi, like de Moltke, advises a rapid offensive in order to arrive, at the earliest, at the decisive act, *the battle*. The shock of the two opposing fronts will produce that battle. Thanks to the concentration in form of a carpenter's square, thanks to the strategic marches with overlapping echelons to the front, or finally thanks to the means that permit rapid concentrations upon the theater of the struggle, the directing German authority hopes to win a decision by making use of an independent

mass maneuvered with exactness at the time chosen, on a chosen zone.

The duration of the frontal combats, the rapidity of movement that can be obtained by the utilization of the present means of transportation, will permit movements of masses under time and space conditions heretofore absolutely unknown.

"Nothing," writes General von der Goltz, "could give to the inventive mind of the general-in-chief a bolder flight than the liberty of action assured to him by the railroads, and military art of the future will certainly reveal to us mightier conceptions than history has shown us up to the present. * * * Since detours are almost without importance on account of the rapidity of conveyances, one will have always to count upon the contingent possibilities of sudden movements of large masses of troops by rail."

Nothing could be learned from the Manchurian war concerning the strategic utilization of railroads. In an European war, especially in a theater like that over which would take place a Franco-German war, the density of the railway lines would permit movements on a scale and with a rapidity hitherto unexampled.

The multiplicity of the railroads, the employment of automobiles, the utilization of balloons and of aeroplanes now present to the general-in-chief new resources out of which a superior mind will be able to evolve methods of warfare that will revolutionize those now in use. The Russo-Japanese war might easily be the last great war carried out by means and methods of the nineteenth century.

We should appreciate the fact that the new tools put at the disposal of armies are studied with the greatest

care and with a remarkable initiative by the responsible authorities of the German army.

The strategic preparation for a battle, or rather for battles, will require a settled management, unyielding in its aims, a methodical preparation, an ordered and rapid execution.

The qualities of the German general staff, established by de Moltke, are a guarantee of a wise and extremely careful strategic preparation.

Such a preparation, however, can not give good results unless the chief is endowed with a mind imbued with the idea of the offensive and possessed of an unwavering will; now, if the Germans are all for the offensive in their tactics, they are so moreover to the extreme in their strategy. They hold essentially to the idea of always getting the start of the adversary and of imposing their will upon him.

If they permit the defensive, it is over a secondary theater of operations, it is in order to gain time at some point; but their offensive spirit can not accept the idea of letting the adversary take the lead in the principal attack.

They will march upon the enemy with all their forces, not assembled together, but available, and able to reach him at the proper time. The first corps to encounter the adversary will attack promptly, as we have learned from our studies. The front of the enemy is thus entirely invested without delay, with all possible vigor; time must not be left for the enemy to get his bearings, to take the initiative or to acquire any priority whatever. While the direct offensive of one or of several units will hold him fast in a fierce frontal strug-

gle, other units will debouch at the proper time upon a flank and gain the decision.

The Germans claim that it is superfluous, useless and bad to seek before the attack to clear up completely the general situation; if one waits for complete information to act, in *strategy* as in *tactics*, one will temporize, hesitate and lose the supremacy of priority in the offensive.

The secret of victory, they say, rests above all in a firm will, keeping ahead of that of the enemy, executed with lightning like swiftness and an indomitable energy.

It is not the situation which should regulate the maneuvers, it is the rapid and unexpected offensive that should create the situation, which the maneuvering will exploit to advantage.

"This will to act in accordance with a preconceived plan should be pushed to such a point that the adversary, notwithstanding all the plans that he may have made, will be subjected unreservedly to the law of our initiative." (General von Bernhardi.)

We can but admire such bold and sound ideas.

We have thought it useful to bring to mind these high strategic ideas. They give a better appreciation of the manner in which our redoubtable neighbors expect to conduct their warfare, and a better understanding of their general tactics.





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